

PERIODICAL DEPARTMENT

*The AMERICAN*

# RIFLEMAN

THE RIFLE 1885

SHOOTING

~ 1888 to ~

VOLUME LXXV

ARMS & THE MAN 1906

& FISHING

~ 1906 ~

NUMBER 5

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MAY 10 1927



International Match Ammunition Test

\$3.00 the year

MAY, 1927

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**N.R.A. Tyro Team Match 50 Feet**

**Winner: Team No. 1, University of Missouri Rifle Club,  
Columbia, Mo., Score 1500, Peters Tack-Hole**  
**Second: Team No. 2, University of Missouri Rifle Club  
Score 1499, Peters Tack-Hole**

**N.R.A. Two Man Team  
Match 50 Feet, Won by**

**Mike Altman, Luverne, Ia.  
Nick Altman, Luverne, Ia.  
Total Score 1185  
Peters Tack-Hole**

**N.R.A. Individual Collegiate Championship**  
Four out of first seven places won by users of  
Peters Ammunition. Twenty seven out of fifty  
reporting entries used Peters Ammunition.

**N.R.A. Gallery Championship, 1927  
50 Feet**

**Two out of first four places won by users of  
Peters Tack-Hole**

**N.R.A. Individual Gallery Championship, 1927  
75 Feet**

**Three out of first six places won by users of  
Peters Tack-Hole**

**N.R.A. Two-Man Team  
Match 75 Feet, Won by**  
**Mike Altman, Luverne, Ia.  
Nick Altman, Luverne, Ia.  
Total Score, 1158  
Peters Tack-Hole**

**Individual Police Team Championship, 1927**

**Thomas J. Girkout, Gatun, Canal Zone, 1st, Score 558  
I. G. McQueen, Moulton, Iowa, third, Score 542  
Ammunition: Peters .38 Special**

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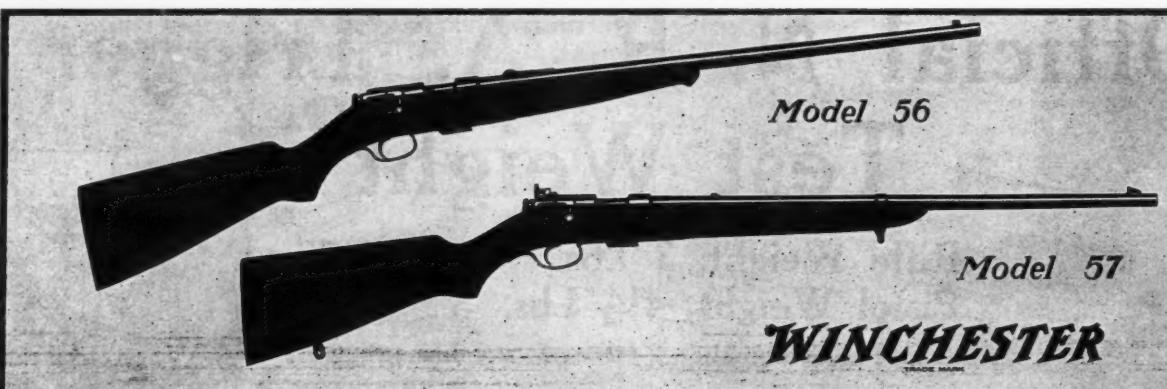
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*Cal. .22*



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*"MAKERS OF HISTORY" is a book of thrilling adventures in which Colt's have figured. May we mail it to you with our Catalog No. 56?*

**Specifications of Colt's "Woodsman" Model**

CAPACITY OF MAGAZINE. 10 shots.  
LENGTH OF BARREL. 6 1/2 inches.  
LENGTH OVER ALL. 10 1/2 inches.  
WEIGHT. 28 ounces.  
FINISH. Full Blued. Checked Walnut Stocks.  
DISTANCE BETWEEN SIGHTS. 9 inches.

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	TABLE OF CONTENTS	PAGE
International Match Ammunition Test	5	
Colonel Whelen and Major Clay		
Editorial	8	
New Shotgun Standards	9	
F. C. Ness		
How We May Bring the Dewar Trophy Home	11	
S. C. Landis		
Double-Barrel Sporting Rifles	13	
N. Buckingham and R. F. Riggs		
Gossip in the Firearms Trade	14	
Ohio Rifle League Holds Match	15	
Dr. M. E. McManes		
A Little About Smith & Wesson Revolvers	17	
M. L. Weaver		
In Search of a Vermin Rifle	19	
Capt. Chas. Askins		
There's Safety in Rifles	20	
Col. William Libbey		
Regulations for Hunting Migratory Birds	20	
Changed		
N. R. A. News	23	
A Good Russian Sporter	28	
Director Civilian Marksmanship	29	
N. R. A. Junior News	30	
Dope Bag	34	
Arms Chest	47	



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## Let's Beat the Swiss

THE Swiss, who last year took the rifle championship of the world away from America, have picked their International team, and have placed it in intensive training. It is time for America to get its team together and train it.

In order to do this it is necessary to ask the shooters of the country to contribute to a fund for the International team. Each shooter who wants to help America regain the title is asked to contribute at least one dollar. Pin your contribution to the attached form and send it to the National Rifle Association, 1108 Woodward Building, Washington, D. C.

I wish to be credited with \$..... as my contribution to the International Team Fund.

Name .....

Address .....

P. S.—If you don't want to clip the magazine, write your name and address on a piece of paper, pin your contribution to it and mail to the National Rifle Association.

# The AMERICAN RIFLEMAN

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## Test of International Match Ammunition—Approval of Rifles and Ammunition for National and International Matches of 1927

By Lieut. Col. Townsend Whelen and Maj. W. L. Clay

Ordnance Department

AS IT WAS not determined until quite late in the year 1926 that the International Rifle Competitions would be held in the spring of 1927, rather drastic action had to be taken to insure that the United States team would have the best ammunition possible in time for the tryout, preliminary practice, and competition. In previous years this ammunition had been selected in a competition in which a majority of the cartridge companies and Frankford Arsenal submitted samples from which the most accurate type was selected as the ammunition for that year. But, owing to the very short notice, there was not sufficient time this year to permit of a satisfactory development of ammunition by the cartridge companies. Also it was thought very desirable that the ammunition be developed for use in 28-inch barrels, that being the length of barrel of the rifles to be used by the team this year. Not sufficient 28-inch Mann barrels were available for giving each cartridge company a supply, and new ones could not be made in time. Therefore, after putting the matter before the various cartridge companies, it was decided by Gen. M. A. Reckord, the Executive Vice-President of the National Rifle Association, Col. G. C. Shaw, Director of Civilian Rifle Practice and the Chief of Ordnance, that Frankford Arsenal would be asked to develop the ammunition for the International Team of 1927, but that this arrangement would be for this year only. It was thought that the method of selecting this ammunition by competition was correct in principle, and it is only being departed from this year because of the very short time available.

It will be remembered that the last International Competitions were held in 1925, and that year the Frankford Arsenal product won the ammunition test and was used by the team. This 1925 International ammunition consisted of the 1925, 172-grain, 9-degree boat-tail bullet and a powder charge of 37.6 grains of Hercules Hi Vel powder. In the official test of 1925 this ammunition showed the following accuracy at 300 meters:

Mean figure of merit .....	2.11
Extreme vertical .....	1.88
Extreme horizontal .....	2.33

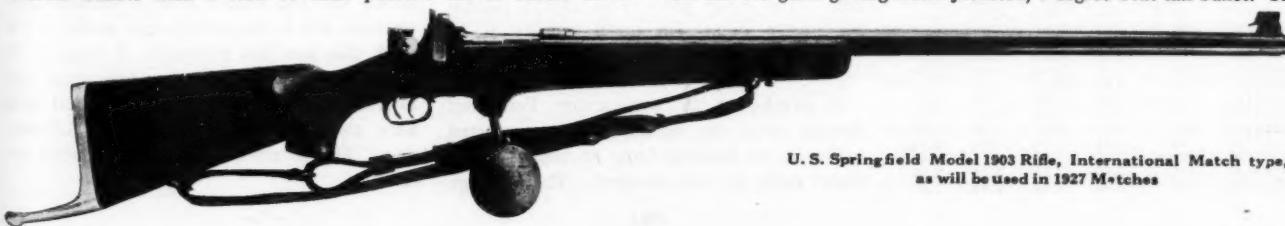
In the course of manufacture of 1925 National Match ammunition Frankford Arsenal had selected and set aside certain lots of super-accurate bullets with a view to their possible use in future Inter-

national ammunition. These were available for this year's ammunition. Frankford also had several new 28-inch Mann barrels for use in developing the new ammunition. Accordingly that arsenal was directed to proceed with the development of the ammunition, and to have it ready for official test by the middle of March. Maj. Julian S. Hatcher, Ordnance Department, was placed in charge of this work. It was further determined that the ammunition should be developed and tested, not only in the Mann barrels, but also in the actual rifles to be used by the team. In previous years the ammunition had been developed in 24-inch Mann barrels, and it was thought by many that it might not be quite so suitable for use in rifles with 28-inch barrels as ammunition developed entirely in barrels of such length.

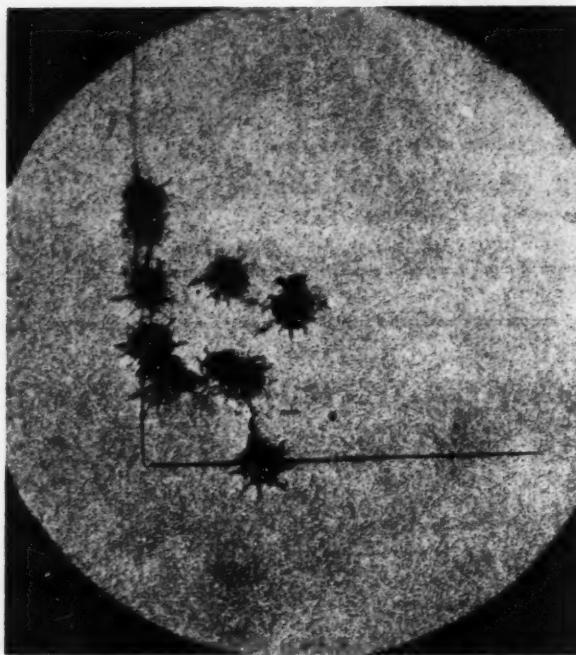
In the meantime the Secretary of War had appointed a board for the purpose of determining the types of arms and ammunition to be used in the National and International Matches for the year 1927, and making the necessary tests for the selection of the same. The board, consisting of the following members, met at Frankford Arsenal on March 18, 1927: Brig. Gen. Colden L'H. Ruggles, Assistant Chief of Ordnance (absent); Col. Alexander J. Macnab, Jr., Infantry (presiding); Lieut. Col. George C. Shaw, Infantry; Commander Eugene E. Wilson, United States Navy; Lieut. Col. Townsend Whelen, Ordnance Department; Lieut. Col. Frederick M. Waterbury, Ordnance Reserve; Maj. Ralph S. Keyser, United States Marine Corps; Maj. Clair W. Baird, Coast Artillery Corps; Maj. Wallace L. Clay, Ordnance Department; Maj. Herbert O'Leary, Ordnance Department; Maj. Littleton W. T. Waller, Marine Corps Reserve; Maj. Francis W. Parker, Jr., Ordnance Reserve; Capt. James L. Hatcher, Ordnance Department; Mr. K. K. V. Casey.

There were also present representatives from the arms, ammunition, and powder companies.

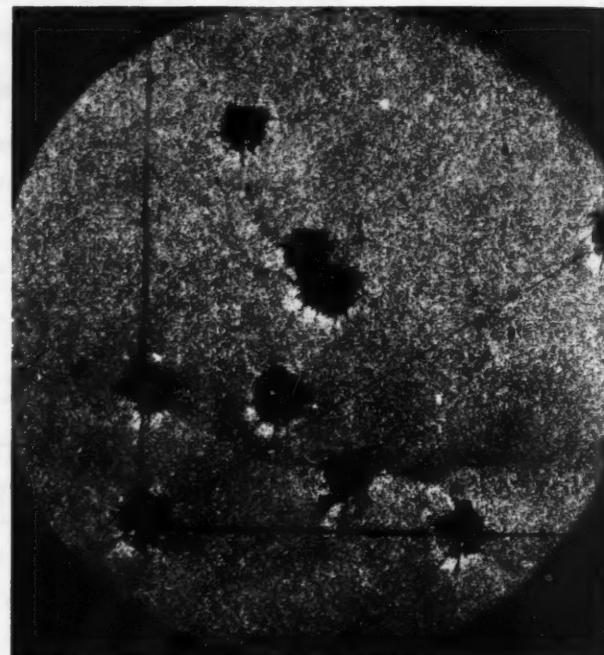
The board first proceeded to give its approval to the arms and ammunition being prepared for the National Matches. The rifle will be exactly the same as the rifle used in the 1925 matches. In 1925 there were no criticisms whatever of this rifle on the part of the team captains or individuals at Camp Perry. The ammunition also will be the same as that used in the 1925 National Matches. This ammunition uses the 172-grain gilding metal-jacketed, 9-degree boat-tail bullet. The



U. S. Springfield Model 1903 Rifle, International Match type,  
as will be used in 1927 Matches



**BEST TARGET** obtained with 1927 International Match Ammunition at Frankford Arsenal, 300 Meters. Figure of merit 1.22 in., extreme vertical 1.55 in., extreme horizontal .90 in. The circle represents the size of the International bull's-eye.



**AVERAGE TARGET** obtained with 1927 International Match Ammunition at Frankford Arsenal, 300 Meters. Figure of merit 2.54 in. extreme vertical 2.33 in., extreme horizontal 2.75 in.

powder charge is 53.2 grains of du Pont powder, lot 1,489. The instrumental velocity at 78 feet is 2,716.4 f. s. The mean pressure in the official test was 46,578 pounds per square inch with uncompressed coppers. In the official 1925 test this ammunition gave the following average accuracy:

Range, yards	Group, diameter	Extreme vertical	Extreme horizontal	Mean radius
600	7.119	6.171	5.861	2.303
1,000	18.268	17.076	11.829	5.710

The board then proceeded to give its approval to the rifles which had been developed and manufactured by the Ordnance Department for the use of the International Team. These rifles have already been fully described in an article entitled "Re-gunning the International Rifle Team," by Maj. Julian S. Hatcher, appearing in the April number of this magazine. A week before the official test Frankford Arsenal had tested each of these rifles with the new International ammunition with the following results:

**SUMMARY OF ACCURACY OF 25 CALIBER .30, 1927 INTERNATIONAL MATCH RIFLES, USING AMMUNITION, CALIBER .30, 1927 INTERNATIONAL**

Powder: No. 2, lot No. 1488-S charge, 36.4 grains; velocity, 2,200 f. s. in 28-inch Match Barrels

Rifle No.	Score*	Mean of 5 targets for each rifle			
		Group Dia.	Figure of Merit	Ex. Ver.	Ex. Horz.
1257688	100	3.43	2.63	2.61	2.67
1257722	99.6	3.76	2.94	2.65	3.28
1257689	99.6	3.54	2.87	2.80	2.94
1257716	100	3.05	2.47	2.21	2.78
900531	99.4	4.15	3.35	3.42	3.29
900531	100	3.15	2.58	2.72	2.44
1257712	99.6	4.04	3.15	3.12	3.19
1257712	99.4	3.93	3.47	3.24	3.72
1257720	100	3.12	2.70	2.85	2.57
1228880	100	3.24	2.66	2.48	2.86
1257710	99.8	3.55	2.70	3.08	2.34
1257687	99.6	3.27	2.59	2.74	2.46
1244436	100	3.10	2.55	2.26	2.83
1257701	100	3.03	2.65	2.76	2.56

1245960	100	3.08	2.45	2.79	2.11
1257693	100	3.12	2.77	2.97	2.39
1257699	100	3.35	2.75	3.00	2.51
1244367	99.8	3.67	2.96	3.08	2.84
1257697	99.8	3.51	2.78	2.63	2.93
1228879	99.8	3.98	3.10	3.06	3.15
1244441	99.6	3.51	2.79	3.01	2.58
1244348	99.6	3.74	3.01	3.48	2.50
1244423	100	3.23	2.56	2.56	2.58
1274540	100	3.48	2.79	2.66	2.91
1274549	100	2.86	2.34	2.41	2.28
1274544	99.8	3.50	2.79	3.80	2.29
1274548	99.8	2.17	2.48	2.50	2.46

\* Score.—Percentage of shots in 4-inch circle.

† Retest.

Rifles tested at Frankford Arsenal, March 9, 10, and 11, 1927.

This accuracy is believed to be the best ever obtained from a lot of twenty-five rifles of any make with any kind of ammunition. The rifles were fired at 300 meters from the Frankford Arsenal 4-point rest, a modification of the Mann V rest.

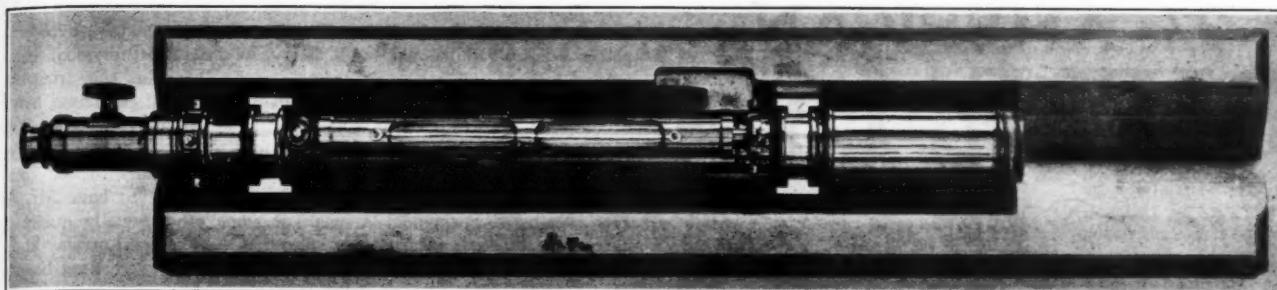
We come now to the test of the International Match ammunition itself. This ammunition, as developed by Frankford Arsenal, consists of selected lots of the 172-grain gilding metal-jacketed, 9-degree, boat-tail bullet, the same as used in the 1925 National Match ammunition, a powder charge of 36.4 grains of Hercules Hi Vel No. 2 powder, lot 1,488-S, the F. A. No. 70 primer, and Frankford Arsenal .30-06 cases of rifle anneal. The mean pressure is 28,035 pounds per square inch. The mean velocity at 78 feet is 2,203 f. s., corresponding to a muzzle velocity of about 2,250 f. s.

In developing this ammunition, Frankford Arsenal tested the bullets that they expected to use in its loading, firing 66 targets of 10 shots each at 300 meters. The average

figure of merit of all these 66 targets was 2.09, which was better than the winning score of the 1925 International Match ammunition, which was 2.11. The maximum group diameter of all the 66 targets fired was only 3½ inches, showing that all of the shots would have stayed in the 10-ring of the International Target.

When this International Match ammunition was completed, ready to submit to the board, an unofficial test was made of it, consisting of 36 targets of 10 shots each, fired at 300 meters from 28-inch Mann barrels. The average figure of merit was 2.05. The smallest target had a mean figure of merit of 1.45, and 9 of the shots on this target can be covered by a half dollar.

On March 18, the day of the official test, most unfortunately the weather man treated us to a strong, rather gusty 3-o'clock wind. It was obvious from the start that no records would be broken, however excellent the ammunition might be, for the wind struck the bullet holes across the face of the target in a most exasperating manner, greatly increasing the extreme horizontal deviation of every group, despite the good wind-bucking qualities of the ammunition. Normally the groups fired in calm weather would have shown the horizontals a little smaller than verticals, but in the official test, owing to the wind, this was just reversed. A total of 10 targets of 10 shots each were fired from two Mann barrels, and 5 targets of 10 shots each were also fired from two of the International Match rifles, with the following results:



BLOCK OF THE MANN "V" REST viewed from above, with telescope in position. Telescope is removed and barrel substituted when firing is to be done. This block is secured in the Frankford Machine Rest Base, and the entire block is movable therein for elevation and azimuth.

Mann Barrel No. 1270619, fired 964 times, G. .3080, L. .3000, H. S. 1.941, P. P. .060

Box	No.	Target Score	Group Dia.	Figure of Merit	Ex.Ver.	Ex.Hor.
	1	100	2.90	2.27	2.44	2.10
	3	2	100	3.55	2.30	1.45
	5	3	100	2.40	2.17	1.95
	7	4	99	4.90	3.52	2.40
	2	5	100	3.15	2.22	1.70
	4	6	100	3.58	3.10	3.00
	6	7	99	5.88	3.90	2.49
	8	8	100	2.45	2.27	2.45
	1	9	99	5.24	3.30	1.55
	3	10	100	3.25	2.37	1.65
			997	37.30	27.42	21.08
			Mean	99.7	3.73	2.74
					2.11	3.38

Mann Barrel No. 1270725, fired 1,161 times, G. .3080, L. .3000, H. S. 1.942, P. P. .060

Box	No.	Target Score	Group Dia.	Figure of Merit	Ex.Ver.	Ex.Hor.
	5	11	100	3.85	2.76	2.78
	7	12	100	2.00	1.68	1.83
	2	13	100	2.87	2.11	1.64
	4	14	100	2.10	1.71	1.46
	6	15	100	2.44	2.03	1.76
	8	16	100	2.58	2.04	1.96
	1	18	100	2.85	2.27	1.75
	3	20	100	2.79	2.64	2.79
	5	22	100	3.20	2.72	3.15
	7	24	99	4.55	3.20	1.92
			999	29.26	23.16	21.04
			Mean	99.9	2.93	2.32
					2.10	2.54

Rifle No. 1274549, fired 116 times; rest, No. 2.

Box	No.	Target Score	Group Dia.	Figure of Merit	Ex.Ver.	Ex.Hor.
	2	1	100	3.55	3.20	3.14
	4	2	100	3.20	2.44	2.59
	6	3	99	4.38	3.35	2.54
	8	4	99	4.10	3.46	3.06
	1	5	99	5.13	3.51	2.83
			497	20.36	15.96	14.16
			Mean	99.4	4.07	3.19
					2.83	3.55

Rifle No. 1245960, fired 102 times; rest, No. 2.

Box	No.	Target Score	Group Dia.	Figure of Merit	Ex.Ver.	Ex.Hor.
	3	6	99	3.75	3.47	3.65
	5	7	100	2.75	2.15	1.50
	7	8	100	3.95	3.17	2.70
	2	9	100	3.25	2.22	1.85
	4	10	100	3.10	2.62	2.55
			499	16.80	13.63	12.25
			Mean	99.8	3.36	2.72
					2.45	3.01

Averaging the results obtained with the two Mann barrels, we have the following:

Mean group diameter ..... 3.33 inches  
Mean figure of merit ..... 2.53 inches  
Extreme vertical ..... 2.11 inches  
Extreme horizontal ..... 2.96 inches

and, similarly, averaging the results obtained with the two International rifles we have:

Mean group diameter ..... 3.71 inches  
Mean figure of merit ..... 2.95 inches  
Extreme vertical ..... 2.64 inches  
Extreme horizontal ..... 3.28 inches

For comparison, five targets were fired in Mann barrel No. 1270725 with the 1925 International Match ammunition, with the following results:

Box	Target Score	Group Dia.	Figure of Merit	Ex.Ver.	Ex.Hor.
	17	98	5.70	4.12	2.55
	19	98	5.15	3.86	4.16
	21	99	4.10	2.95	2.06
	23	100	3.40	3.15	3.50
	25	100	3.65	2.99	2.45
		495	22.00	17.07	14.72
		Mean	99.0	4.40	3.41
				2.94	3.89

This indicates that with the limited firings made, the 1927 ammunition is considerably better than that furnished for the 1925 International Matches.

The members of the Ammunition Board appointed by the War Department unanimously agreed to accept the ammunition sub-

mitted by Frankford Arsenal for the International Matches of 1927. It fully complied with the specifications, gave remarkable accuracy, and it is believed that our representatives on the International Rifle Team can enter their contest abroad with a feeling of confidence that the ammunition shoots well within the 4-inch ring.

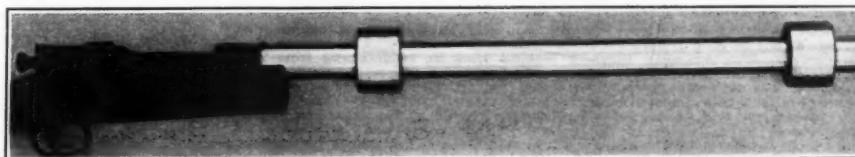
The personnel at Frankford Arsenal worked diligently to develop this ammunition, as it is their earnest desire to have the American team win the contest this year with their product. The efforts of Maj. Julian S. Hatcher, Ordnance Department, in the preparation of the cartridges, and of Lieutenant Rothrock in the inspection of the same, and their civilian assistants, including Andrew Hallowell and Jack Matthews, have brought about the final production of this super-accurate ammunition.

The Hercules Powder Co. also deserve special commendation for producing a powder giving such even velocities, igniting so well and so uniformly at such a relatively low pressure, and assuring such remarkable accuracy. We usually think of powders hav-

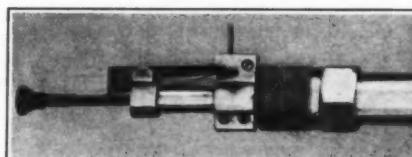
ing a nitroglycerine base as being rather erosive, but that is only in heavy charges, where the pressure approaches 50,000 pounds per square inch. In this International Match ammunition the pressure is only 28,000 pounds, there is practically no erosion, and the rifle barrels should maintain their accuracy absolutely unimpaired for thousands of rounds.

It is hoped next year that some time will be available for development in order that the competitive tests may be completed and the type of ammunition determined far enough in advance that a quantity of it may be furnished to the American Rifle Team for practice over a considerable period before they go abroad.

The ammunition and rifles furnished for this year's matches are considerably superior



MANN BARREL with Model 1903 breech action ready for use in the rest. The two rings encircling the barrel rest in the "V", and the barrel slides or recoils in the "V" in exact prolongation with the bore, thus eliminating all jump or flip.



Concentric Breech Action

to any furnished previously, and we have the utmost confidence that the American team will return as winners of the International Matches of 1927.

The interest shown this year in the International Match preliminary tryouts has been unprecedented, 321 riflemen in various parts of the country competing. While a considerable number of these are new at the International game, some very fine shooting has been done. And this, we feel, coupled with the fact that the Swiss will also be competing upon foreign soil this year, justifies the hope and belief that this year's International team will be successful in bringing home the bacon.

# The AMERICAN RIFLEMAN



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## The Dewar Match

LAST year the British for the first time since 1912 took the Dewar Cup away from the United States. This must not happen again.

The British won, of course, because they outshot the American team, but the reason why they outshot the American team was because, taking a leaf from our book, they, for the first time, excelled us in preparation and organization.

The Dewar Match will be fired this year at the National Matches at Camp Perry. The team consists of twenty shooting members, five alternates, the captain, and a coach. The captain and coach will, as usual, be assisted by a corps of assistant coaches who actually coach the individual members of the team on the firing line. The course of fire is 20 shots at 50 yards and 20 shots at 100 yards. Twenty-two-caliber rifles are used with iron sights, and the only limitation on the rifle is the length of the barrel, which must not exceed 30 inches, and the trigger-pull, which must be less than three pounds. This permits the use of any of the .22-caliber rifles in ordinary use, including the Stevens, Winchester .52, B. S. A., Springfield, or any of the older rifles such as Ballard, Winchester single-shot and the like.

The team will be selected from those competitors at Camp Perry who signify their intention of trying-out for the team, and selection will be made on the basis of the work done by the competitors in the small-bore matches at Camp Perry, including special tryout events, but consideration will be given to the past records of the candidates.

It is now an established fact that different rifles, even of the same make, give maximum accuracy with different makes and lots of ammunition. Arrangements have been made to have available for use,

both in the tryouts and in the Dewar Match, all types of commercial ammunition, and the Ordnance Department is arranging to have a machine-rest available at Camp Perry so that the individual competitor may at the beginning of the matches have his rifle tried out in the machine-rest so as to enable him to select that particular batch of ammunition available at Camp Perry which makes the smallest groups in his rifle. Since the manipulation of the machine-rest is something requiring special training and skill, which many of the competitors do not have, arrangements are being made to have Mr. Al Woodroffe, of Springfield Arsenal, or some other equally qualified, unbiased individual, operate the rest so that each competitor may know the groups fired from his rifle on the machine-rest, were fired he can base his selection of ammunition.

It is hoped that all competitors will avail themselves of the opportunity to have their rifle fired on the machine-rest because thereby each competitor will have a better opportunity to make the team, and because if this is done before the tryout it will eliminate the necessity of testing the rifles of the individual members of the team after the team has been selected.

It is not intended to publish comparative groups fired with different ammunition, but the competitor himself will be enabled to determine which ammunition makes the best groups in his own rifle.

Arrangements are also being made to have an adequate supply of spare and repair parts for the more common types of .22-caliber rifles so that a competitor may be given an opportunity to make such changes as seem desirable to increase the accuracy of his rifle.

Experience has especially shown that the strength of the blow delivered by the firing-pin has great influence on the accuracy of the rifle, and an action that hits the primer too hard is as bad as an action that does not hit it hard enough. It is expected that there will be available apparatus to test the strength of the blow so that competitors may determine those conditions best for their own rifles.

For the first time satisfactory .22-caliber rifles are in the hands of the Regular Services and the National Guard, and it is hoped that there will be a large number of candidates from this source for the team. In connection with this, attention is called to the Caswell Short-range Team Match, to which are eligible teams from civilians and the National Guard of each State. This is a six-man team match which is fired over the Dewar course with iron sights, and there ought to be a large representation in the entries of this match from the National Guard and civilian teams because in this match the National Guard teams especially are not handicapped by failure to have telescopic sights, since the Springfield rifle, .22 caliber as issued, is as good as any rifle known for firing this match.

## The Outdoor Program

THE program of Outdoor Matches for the Spring and Summer, 1927, has been mailed to all individual members of the National Rifle Association and to secretaries of affiliated clubs. The program covers a wider variety of competitions than has previously been undertaken by the Association.

The idea of postal matches in this country started about eighteen years ago with Interscholastic Gallery Competitions. The growth of the postal match idea has been steady from that time up until the present year. The postal competitions serve two valuable purposes: First, they permit the shooter who is financially unable to attend some of the big shoulder-to-shoulder matches to participate in real nation-wide events without travel expense. In this way, shooters of real ability who would otherwise remain undiscovered are brought into the light and made available for State and National teams. The ability of various competitors, as indicated through years of competition in the postal matches, had some bearing on the consideration which was given competitors in the recent regional tryout for the 1927 International Team. The second purpose served by the postal events is to enable the old-timer to keep in trim in intervals between important matches. Primarily, however, the postal match plan is intended to develop the tyros and the backward brethren who would never try to make a place for themselves on a State team if there were not some way for them to find out on their own range how good they were as compared with their fellow shooters.

# New Shotgun Standards

By F. C. Ness

(Continued from April)

About the most all-around useful 12-gauge load is  $1\frac{1}{4}$  ounce of No. 6 chilled shot (providing the load permits the safe use of that increase over the old standard  $1\frac{1}{8}$  ounces), at sufficient velocity to have a killing penetration at extreme shotgun range between 50 and 70 yards (again providing that the load will achieve this velocity normally without compromising the pattern). Anyway, I tested the No. 6-c Heavy Duck load as the most standard representative of the Remington Nitro-Express series. Remington claims an instrumental or average velocity of 960 foot seconds over a 40-yard range for this load. We can accept these figures unqualifiedly, as they were actually taken through careful ballistic tests. And, indeed, my own shooting convinced me of the superb punch they have gotten into these cartridges, which I will mention later.

They also claim that this is 30 f. s. higher than the speed obtained with  $3\frac{1}{2}$  drams bulk plus  $1\frac{1}{4}$  ounces, and that the uniformity is better in the new loads, with an average difference between maximum and minimum of only 40 f. s., against an average variation of 80 f. s. for the older loads. Theoretically, this is a very important improvement. It adds yards to the effective range, and the refinement in uniformity would permit more accurate gauging of the necessary amount of lead-ing at the different ranges. In practical shoot-ing, however, I believe there are very few shooters who are able to detect differences in velocities in less than 100 f. s. units. None the less, the gain claimed by Remington is real, and we welcome these improved ballistics as setting a better standard for modern shotgun ammunition.

I feel that we duck hunters are to be con- gratulated upon being able to now go to our dealers and buy in standard  $2\frac{3}{4}$ -inch cases such *definite* shotgun ballistics instead of the confusing *specified* charges of old. Personally, it means the realization of a dream I ex- pressed in these same pages a year or two ago. To become entirely elated I only had to be- come convinced that pattern effectiveness had not been overlooked in the new loads, since, in shotgun work, killing efficiency is not only measured in range and penetration but in terms of the number of actual hits on the bird. The most practical method we have available for determining this is to target the loads on the patterning board.

**CAPT. CHAS. ASKINS**, our shotgun au- thority, has reported on Remington Nitro Express patterns, after a somewhat limited test, which I am sure he himself would have liked to have had more complete. There is a significance attached to the loads available for the shotgun hunting season of a greater importance, I believe, than is generally con-

ceded. Not because the particular loads under discussion happen to be Nitro Express, but because these loads represent a new era of standard shotgun fodder, regardless of brand, and no matter which make you buy. I gave these loads a fuller and more severe test, and carried it forward from the point at which Captain Askins left off.

Captain Askins mentioned that 100 pellets in the standard test ring of 30 inches will be nearly certain to kill birds at that range; also that it might be generally taken for granted that patterns would fall off about 2 per cent per yard. The 30-inch circle at 40 yards is used as a standard basis for the comparison of shotgun performance. Only as a comparison this is O. K., but it does not tell us what actually will happen to the duck which is struck by only a cross-section of the stringing shot-column that registers in its entirety upon our pattern paper. Therefore, the 150-pellet pattern requirement which the captain used as a criterion in his test comes nearer the truth, and when the 30-inch is used on the fifty-yard range it will hold less false evidence, because cripples or deformed shot which are ineffective on the bird will have curved out of the pattern boundary at the longer range. Even at fifty yards, the 30-inch pattern is too sanguine, because 150 pellets on the flat, stationary target paper mean less than 100 pellets in the plane or cross-section of the shot-column the flying duck cuts through. Hence, while far less than 100 pellets in the given plane of the bird will effectively kill him, we must demand a proportionate increase (about 4 to 1) in our pattern requirements to cover the deadwood.

Thus, in rating our pattern, we require four hits per bird, while one will stop him in actual practice. If my figures are correct, the area of the 30-inch circle is 706.8 square inches and contains, roughly,  $78\frac{1}{2}$  squares  $3'' \times 3''$ . No pattern can be considered for "single-bird" killing unless it averages at least one pellet per 3-inch square. To be rated as a certainty, there should be two hits per square, which is what our 150-pellet pattern gives us. This means four hits per duck, since two of these squares represent the total vulnerable area of an average duck ( $3'' \times 6''$ ).

There is another aspect to this shotgun targeting that has a direct bearing on its value as a means for judging the practical effectiveness of our patterns. Few of us can center the densest portion of our pattern on our game, while on the large target sheet holding our entire pattern we circumscribe the 30-inch circle to enclose the choicest or most effec-tive portion. Hence, to furnish an accurate and reliable guide, the circle should be drawn first, and conclusions drawn from what it catches. In all my previous targeting I always used an aiming patch the size of a duck,

and always noted the number of hits within this small, definitely placed area as a significant part of the pattern analysis.

In testing the new loads I not only placed my target definitely before firing each shot, but restricted its area as well, and, to remove all doubt, I used paper but 24 inches wide. This gave me an area of two square feet to catch the shot load, and it is obvious that any portion of the pattern landing outside of this predetermined space,  $24'' \times 24''$ , cannot figure in the reckoning. Sometimes the 24-inch target paper will catch the center of the pattern, and sometimes the edge-spray alone registers, with the finest sections missing the sheet, which means that the averages taken will more nearly approximate actual field con-ditions. At the same time, such a reduced target may be divided into exactly 64 squares,  $3'' \times 3''$ , and the percentages of hits per square may be compared directly with any pattern secured under standard conditions in the usual 30-inch circle.

Thus Captain Askins' two-shot patterns of 166.5, 163, 151, and 128 pellets in the 30-inch circle, with the same No. 6c Heavy Duck load, could be reduced as follows for an accurate comparison with the patterns secured under my own more rigid method:

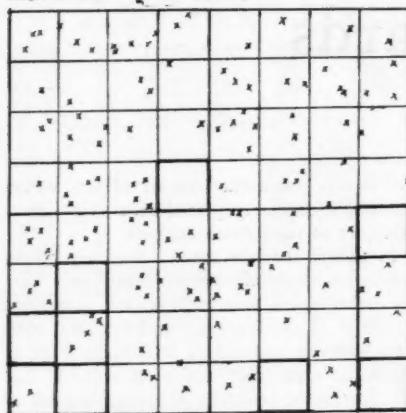
At 51 yards, 2.1 hits per 3-inch square; 53 yards, 2.0 hits; 55 yards, 1.9 hits (150-pellet pattern); and 57 yards, 1.6 hits.

This method also demands more of the gun itself as well. It will either have to be stocked correctly to point where the shooter looks, or to be accurate enough to shoot where the gun-ner aims, if he must resort to sighting down the rib on account of unsuitable stock di-mensions. I found both these qualities O. K. in the two new Model 1926 Ithacas which I used in the test. I shot these two low-priced Field Grades from 50 to 100 yards, aiming down the rib at the top of the pattern board at all the different ranges, and the well-cen-tered patterns secured attest not only to the accuracy of the Ithaca, but show that the excellent top-ribs on these new guns really mean something.

Trajectory of the shot-column was taken care of as the range increased by placing the target sheet lower on the pattern board.

The approximate drop was 12 inches at 50 yards, 15 inches at 60 yards, and 22 inches at 80 yards, which is comparatively flat shotgun trajectory, considering both these Ithacas were equipped with considerable pitch, 4 or 5 inches—and that is just 4 or 5 inches too much for me. For bird shooting, my usual procedure is to cut the butt at a new slant, which will bring the pitch to zero or remove the depression of the muzzle entirely when the butt is correctly placed against the shoulder. With no pitch, the 12-gauge shoots high at short ranges, which is a fine thing for flushed

Target 24" x 24" 50 YARDS



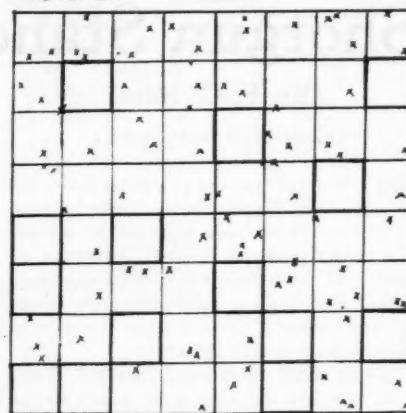
REM. NITRO EXPRESS No. 6c. Ithaca Mod. '26 full choke. 130 pellets hit target. 2.0 hits per three-inch square. Note that only seven 3-inch squares have been missed. (A very good pattern.)

birds on the rise, and it shoots to point of aim at 40 to 45 yards. For me, a three-inch pitch lands standard 12-gauge loads about 15 inches low at this range. Hence the trajectory recorded above with the Remington Nitro Express No. 6c, between 50 and 80 yards, emphasizes their flatness of flight, and to the man with a correctly stocked gun they should prove a real aid to landing on the bird at the longer ranges.

Before passing on to the actual pattern results, which can soon be cleared up, I feel that the splendid Model 1926 Ithaca is worthy of a paragraph or two. My favorite gun in the Minnesota marshes was the old model Ithaca, 30-inch, heavy, and full-choke. Though only the \$37.50 Field Grade, I wouldn't ask for a better waterfowl gun, after I had revamped the stock to suit my own peculiar requirements. While we also used it in the woods with fair results, it patterned too closely and was too unwieldy for upland shooting. It had one strong predilection—Super-X No. 5c—and, when humored, gave me my first 70 per cent combination.

THE new Ithaca has been redesigned from butt to muzzle; about all that has been retained of the old, familiar gun is the gilt-edge shooting quality, the "lightning"-like lock, and the same low price of \$37.50. The evidence of hand-polishing and fitting is absent, and the finish is in keeping with the reasonable price, but in all the important features the Ithaca need ask no odds from any gun. Shooting, handling, and enduring qualities go uncriticized, except in commendation. A rotary bolt is used to lock the barrels, when closed, not only down in the bed, but tight against the breech-block as well, which is more important, being the point of greatest strain. This is designed to take up or compensate for wear, and the Ithaca will just be commencing to get broken in nicely when an ordinary gun would be showing signs of play. The fore end had not been improved in the Field Grades I shot, being of the usual stingy dimensions, but the new patent fastener is a great improvement over the old, sore-thumb type. To me the new safety-indicator plugs

Target 24" x 24" 60 YARDS



REM. NITRO EXPRESS No. 6c. Ithaca Mod. '26 full choke. 84 pellets hit target, or 1.3 hits per three-inch square. While 13 of the small squares are missed, the pattern is evenly distributed, and is a very good one for 60 yards.

protruding behind each barrel are of more use in showing which barrel I shot last and forgot to load, the familiar automatic safety, which still rides behind the top lever, being more than adequate.

AS SOON as I began thus shooting, I realized that the Ithaca had been improved in handling qualities. Our flying-target test of 48 shots with the two guns (12 shots with each barrel without a miss) proved that conclusively, e'en though they were plain factory models of different dimensions and neither stock fitted me as well as I should have liked. The new box-frame is considerably shorter, making extreme light weights possible without weakening the gun. At last we have available at a very moderate price a 12-gauge double-barrel that is actually *designed*, the whole way through, for reduction of unnecessary weight, and still to retain the regular barrels and a man's-size gun. Offering a real light-weight model of a standard shotgun to the shooting public at a low price is a real achievement, and, on the whole, Lou P. Smith is to be congratulated.

The first tried was a sweet little 12-gauge for upland shooting. Right barrel, improved

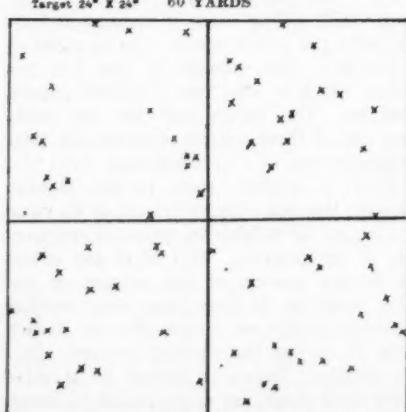
cylinder, left- full-choke, and both 26 inches long. The stock was of full thickness, 13 inches long, with 2 3/4-inch drop at the heel and 1 1/8 inches at the comb. And yet it only weighed 6 pounds, 3 ounces (6 1/4 pounds)! How's that?

Such a gun is intended for birds in the brush, with 3 1/4-dram loads, or for those who are willing to take a little more punch against the shoulder in order to travel light. But I wanted to see how the Heavy Duck load would act in it, and put it through the jumps with Nitro Express No. 6c. It did kick quite a bit under the stress of these powerful Remington loads, but of course the disturbance created would not have been so noticeable in game shooting as it was in taking careful aim, shot after shot, on the pattern board. Most shooters hunt in cover and bag the bulk of their game at close-up ranges, but in buying a gun they invariably target it at 35 to 50 yards; hence all the demand for full-choke guns, even for open-barrel requirements.

I am convinced that the improved cylinder is the only choice for the first shot in upland cover with the left barrel modified. A surprising amount of game is killed at 20 yards, especially with fast, light guns. This may account for all the popularity attained by the .410-gauge. I tried one shot at this point-blank distance with the open barrel, and one shot was enough. The load went into a 15-inch square; too close; great need here for a brush load. At 35 yards, this same barrel placed 190 pellets in the two-foot target, or 3 hits per 3-inch square. At the same range, the full-choke barrel hit the 24" x 24" paper 164 times at 2.6 hits per 3-inch square. The balance of the shooting was carried out more conclusively, and only at 50 measured yards or longer ranges.

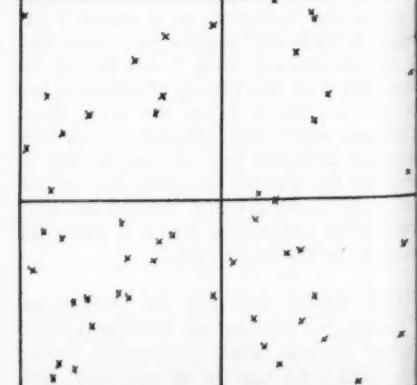
The pattern-board was a fixture on our range. We measured off from it with a steel tape and staked 50 yards, 60 yards, 75 yards, 80 yards, 90 yards, and 100 yards. I used four large thumb-tacks to hold the paper, and marked each sheet as I shot it with: distance, load, gun, and barrel used. I found this method convenient, fast, and accurate. At 50 measured yards the target looks mighty far

Target 24" x 24" 60 YARDS



REM. NITRO EXPRESS No. 6c. Ithaca Mod. '26 full choke. 74 pellets landed on target, or 1.1 hits per three-inch square.

Target 24" x 24" 80 YARDS



REM. NITRO EXPRESS No. 6c. Ithaca Mod. '26 full choke. 52 pellets hit target, or .8 hits per three-inch square. An effective flock pattern.

(Continued on page 20)

# How We May Bring Dewar Trophy Home

By C. S. Landis

THE method which will bring the Dewar trophy back again to the United States will probably be the exact plan which took it to England—the best judgment in shooting the match.

The International Dewar Competition is an old story to practically every one who has had anything to do with small-bore shooting in this country or in England. It was first held in 1909, when Great Britain won the trophy. In 1910 the United States won it back again. There was no competition in 1911; Great Britain took the cup in 1912; the United States won it back in 1913 and held on to it again in 1914. The war made every one give up "small-boy" shooting, as some people have called it, to take up man killing on a large scale, and the next competition was held among the mud and mosquitos at Caldwell, N. J., in 1919. The United States won again, and repeated the victory in 1921, 1922, 1923, 1924, and 1925, but in 1926, as every one knows, we not only lost but were badly defeated.

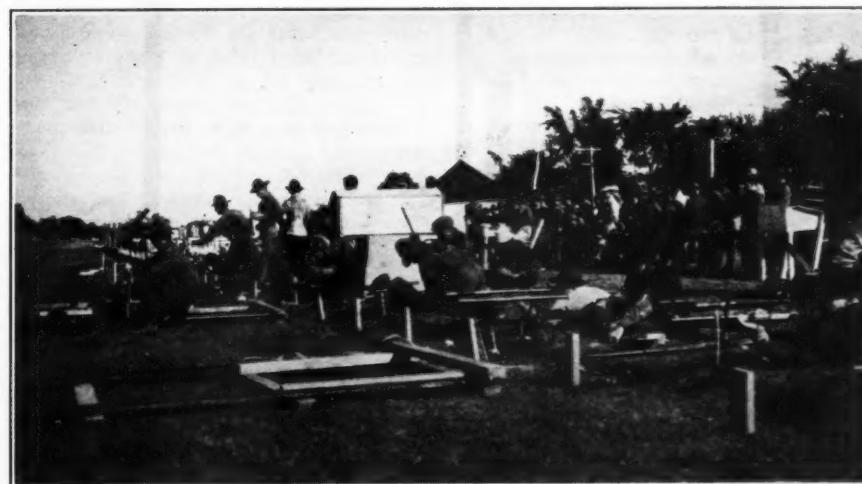
Probably few of us realize unless we read a number of English shooting papers or have had English or English and Canadian correspondence, how hard Great Britain, and in two or three instances Canada or Australia, tried to win the trophy during the last two or three years in which they were defeated.

In 1925 Great Britain made an especially strong effort to win. One of their chief difficulties in past years had been in obtaining the services of the best small-bore shooters in England. Some of these could not find it convenient to take the time and go to the expense of attending the competition, and consequently a small fund was privately raised to defray the expenses of members of the team. The effect of this is said to have been very pronounced, and in 1925 the British team was much stronger than those of previous years. They were unsuccessful, however, partly because they had a tricky wind and several heavy showers of rain during the match, which made difficult shooting conditions. Another thing which helped to make them unsuccessful was the fact that the United States team surpassed their own previous record by thirteen points, and consequently America's winning margin in 1925 was thirty-nine points. Thirty-nine points is not a very great margin, because it is slightly less than two points per man, or two in 400, or one-half of one per cent of the highest possible score. In other words, the American team in 1925, when they beat their own record by thirteen points, shot only one-half of one per cent better than the British team.

The small-bore shooters in Great Britain probably realized all this, because at the meeting of the S. M. R. C. Advisory Committee in October special plans were made for the choosing of the team officials and members for 1926. It was finally decided that the

match would be shot on Saturday, the 28th of August, on the grounds of the Ham & Petersham Rifle Club, which has commodious ranges. The club would provide grounds for the 26th, 27th, and 28th of August, so that an assembly of candidates for the team might be held for two days previous to the match. Preliminary plans were settled by the 29th of June; in other words, in ample time to permit competitors to make necessary arrangements. On July 14 preliminary invitations were sent to twenty-five men that their services would

50 yards and ten at 100 yards simultaneously, with separate timekeepers for each squad. After firing the regulation 20 shots per man, the squads exchanged places and completed their final match targets. This avoided any part of the team having to wait for the others, and what is far more important it enabled every man on the team to try out at the exact time of day at which shooting conditions are most favorable for high scores, and it enabled him to show his team officials that he could shoot a high score in the early dusk of



ACTION SCENE on the Small-Bore Range at Perry

probably be required. These invitations were issued after the shooting of the various competitors had been observed at the Bisley meeting in England and at the Inverness meeting in Scotland. All of the men were asked to practice as much as possible at 50- and 100-yard ranges and to send in practice scores. Invitations were extended for various reasons to other well-known British small-bore shooters. Eventually thirty men assembled, consisting of one Scotsman, seventeen residents of the London area and twelve provincials. In these respects the method of making preliminary arrangements was practically the same as those generally used in this country, excepting that they gave their men a little more time to arrange their vacations. To follow closely what happened from there on, in this and in the shooting of the match itself is, in my opinion, the whole story of how Great Britain won the Dewar.

For two days previous to the final tryout all thirty men had individual practice and sweepstakes under the same conditions as the Dewar Match. This was no different from American practice. But from there on the Britons followed a new practice and used their wits.

From the preliminary shooting twenty men were chosen for a trial test under Dewar Team conditions, ten men being squadded at

late evening, when every small-bore shooter knows the highest possible averages can be obtained by men who have good eyesight.

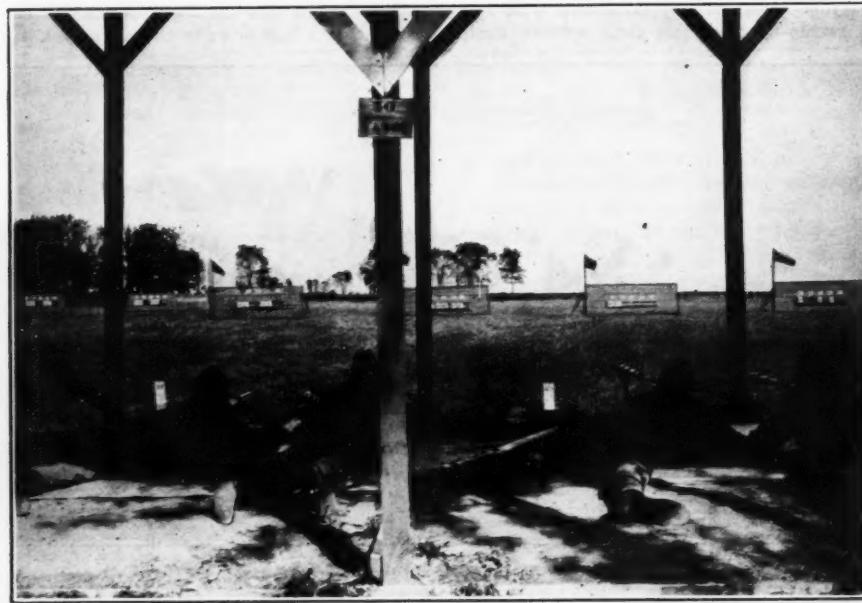
American shooters who have followed the game scientifically and sensibly all know that on the average day any one's scores will be from one to three per cent higher after 4:30 p. m. (in the summer) than before that time. They know also that the best time to shoot on the average summer day is between 5:30 and 7:30 or 8 p. m. There will be exceptions, due to sudden thunderstorms, but what we are discussing here is the usual. The small-bore shooters in Great Britain also know this, and used their heads in a practical manner by holding their tryout at 6 p. m. The weather was fine, with little or no wind, and of course light conditions would be almost perfect on the average day in August. The result was a record score of 7,796 with a high score of 397. This is an average of 389.8 for the twenty men who shot.

About three years ago an American team, shooting in a tryout under the same conditions late in the evening at Camp Perry, had a team average, as I recall, of about 391.5 for the twenty high men. These men were absolutely uncoached. Those who were there will readily remember that a great many contestants who turned in scores of 388 to 391 were going around making excuses for their poor

shooting; all of which is ample evidence that America has the small-bore shooters who can make real scores if they are given the chance and if they are allowed or compelled to shoot at the hour of the day when high average scores are not only possible but almost certain.

After the preliminary tryout mentioned above, the British officials decided to shoot the match at the same time of day and under the same arrangements the following evening. We should recall again at this point that the tryout took place at 6 p. m. on Friday, and using the same knowledge which is common among most experienced small-bore

	50 yds.	50 yds.	100 yds.	100 yds.	Total
A. Jarman	98	100	100	99	397
W. J. Bull	99	99	98	99	395
E. G. B. Reynolds	99	99	99	97	394
W. J. Sable	99	99	98	97	393
S. F. Chorley	100	100	97	96	393
G. F. Booth	96	100	98	97	391
H. S. Longhurst	99	97	96	99	391
J. T. Mountain	94	100	98	98	390
H. D. Buck	97	100	97	96	390
G. C. M. Willcox	97	98	96	98	389
T. J. Gibson	99	98	98	94	389
A. Traies	96	96	99	97	388
W. C. Cartwheel	98	96	98	96	388
Lt. Col. C. Arlington	97	98	96	97	388
P. G. Richardson	98	99	95	96	388
R. S. Tonge	98	99	95	96	388
L. D. Brooks	98	100	99	91	388
R. Stainforth	97	96	98	96	387
J. Cole	98	97	95	94	384
W. Wildgoose	97	97	93	95	382
	1954	1968	1943	1938	7793



SCENE DURING AN INTERNATIONAL SMALL-BORE MATCH at Camp Perry. Flags show considerable wind which usually prevails between 10 a. m. and 4:30 p. m., even on fairly calm days. Note difference in windage at right and left flags—a normal condition. Late in evening of average summer day flags would be drooping under probably a five-mile wind.

shooters in this country that the best scores can, as a rule, be made late in the evening, the British team shot their half of the Dewar beginning at 5:40 p. m., Saturday evening, August 28, 1926. Their scores were the highest ever made in an international competition. High man on the team made 397, the low man 382; but the significant thing is that the seventeenth man on the team and every one ahead of him scored 388 or better. Right here is the gist of the whole competition. Winning team scores are made not by the good scores of the high men but by the lack of poor scores. As Harry Pope pointed out in these columns several years ago: "Any score is dependent not on the number of exceptionally good shots but on the entire absence of poor ones," and so it was with the British team. There were only three scores below 388, only two below 387 and no really bad ones. The itemized score for each group fired by the British team is given here for the convenience and knowledge of American shooters. A careful perusal will be not only interesting but very instructive. Average scores are what won this match for England.

With the match beginning at 5:40 p. m. and with all of the men being on the line at one time with their coaches or spotters, and team officials, every man had plenty of time to shoot before it became dark enough to make the bull's-eyes look indistinct through the iron sights. Accounts of the competition in English papers did not state the time of closing of the competition, but we will assume that it was probably about 7 p. m., or one hour and twenty minutes. If it was half an hour later the shooters probably profited by it, because even at 8 p. m. it is plenty light enough to shoot at 100 yards in August. I have fired thousands and thousands of shots in late evening, and so has every other small-bore shooter who practices in summer and fall, and we have all learned how very much easier it is to make scores of 98, 99, or 100 after 4:30 or 5 p. m. than it is before that time. The improvement is particularly marked at 100 yards, where wind and excessive mirage cause the most trouble, and it is also very apparent on hot days when the temperature gets up around 98° or 100° at 3 to 4 p. m.

At no time during recent years has an

American team shot the Dewar Match late in the evening. This is odd, when we consider the Equinoctial storms that occur at Perry in September. With one or two exceptions it has never been possible to even practice the shooting of the Dewar Match at 6 or 7 o'clock p. m., because at Camp Perry the range always closed at 4, 4:30, or 5 p. m., and for some reason or other it has always seemed to be the idea in vogue that everything would be lost if the match, in so far as we were concerned, was not shot before 2 o'clock in the afternoon; consequently most of the shooting done by American teams in past years has been between 10 o'clock in the morning and 3 p. m.—in other words, at the time of day when it is almost certain that the weather conditions will be less favorable for high scores. Most of us have observed that wind and light conditions usually get worse about 10 o'clock in the morning, particularly at Camp Perry; the wind gradually rises and mirage increases until it becomes noticeably difficult to score higher than 96 or 97 at 100 yards, and by 3 or 3:30 in the afternoon the conditions are so complicated by excessive mirage that a score of 97 at 100 yards is about as good as most of the men can do in the re-entry matches. Of course there are higher scores turned in occasionally, but occasional scores are not the kind that win Dewar Matches. It is average team scores that win, and all the coaching this side of Hoboken will not enable an American team of average, or below average, ability, shooting between 10 a. m. and 3 p. m. on the average day, to defeat a first-class British team shooting at 6 p. m. on the same day or the same kind of a day. Those who do not believe that weather makes much difference are invited to fire not less than 1,000 shots equally divided between that period between 10 a. m. and 4 p. m., and another period between 5:30 and 7:30 p. m.—the experiment to be spread over several days to give a true comparison. One trial will be sufficient to convince even the most skeptical.

Now let us take another look at the British scores. The first time down the line at 50 yards they averaged 97.7. For the second set of scores they put on 98.4 per man, or a 50-yard average for the team of 98.5 per cent. At 100 yards they averaged 97.15 for the first 10 shots per man and 96.90 for the second, or 97.025 for the 20 shots per man. These are good averages anywhere at any time, and for twenty men shooting, when you cannot eliminate wild shots or the scores of the three to five who always seem to have trouble, they are exceptional. But they show conclusively that all scores lower than 98 are a detriment to the team which makes them.

It is a recognized factor in sport that any team, irrespective of whether it be a baseball team, a football team, a rifle team, or good, old-fashioned up-town against down-town fight, fights hardest in its own backyard and when defending something.

The Dewar trophy is in England. It will likely stay there until we have a twenty-man team which can average better than 98 per

(Continued on page 20)

# Double-Barrel Sporting Rifles

By Nash Buckingham and R. F. Riggs

A GREAT deal has been published in outdoor magazines abroad on the subject of double-barrel sporting rifles, but as yet the subject and field have been little discussed in American gunnery. Double-barrel sporting rifles are built, as is the over-and-under shotgun, by only one firm in this country, being of distinctly English or foreign development and to all intents and purposes of like usage, particularly in African and Indian game fields on thick-skinned, dangerous animals. And, in any event, whether of foreign or American design, they are more than decidedly expensive propositions. There are at least two very able gun builders in this country who will, as a result of their birth and training abroad under the best of European gunmakers, import such guns in the white and finish them into any type of rifle or shotgun, both as to design and the heights of artistic engraving. But, as noted, only one American firm is building guns of the type under discussion on a strictly home-designed basis.

It might be just as well to add that in connection with the over-and-under shotgun, the recent passing in Belgium of John M. Browning, the noted American gun inventor, interrupted, doubtless only temporarily, the final development of his last work—a gun of the over-and-under type. We feel that in view of Mr. Browning's contributions to the science and art of gun building, that it is no fracture of credulity to predict that the appearance of this Browning, Belgium built over-and-under will place such a firearm in the hands of hunters desiring this design of weapon priced within reason and built both as to simplicity and durability far in advance of the present day.

Before going further into this subject of double sporting rifles, we assure our readers that we do not own all of the rifles used in our tests. The guns considered in our investigation are a .450 Rigby, a .465 Holland & Holland, a .375 Magnum Royal Grade Holland & Holland, a Super-Thirty Holland & Holland, and a .240 Holland & Holland, also a 12-bore Paradox by Hoffman, of Ardmore, Okla., whose 12-gauge over-and-under of American design is also discussed in this article. This little collection of rifles represents about \$6,500, \$2,500 of which means the Royal Grade Holland & Holland and the 12-bore Paradox.

We do not pretend to consider the Double Sporting Rifle in any other light than strictly a big-game weapon. It is no heavier than a Magnum-Mauser rifle handling the same cartridge. It is not as accurate as the .30-06 match rifle and, as noted, it is very expensive. But we consider it the most practical form of rifle for use on heavy, dangerous, and non-dangerous big game, particularly the former. Where two knockdown stopping shots are imperative and where a broken striker, jammed

magazine, or failure to feed in the Magnum-Mauser would mean at least a severe mauling, the big double sporter fills a mighty big bill. For jungle shooting on tiger, leopard, buffalo, or any of the other dangerous game encountered generally at very short range (in other words, under 50 yards), it is, in our opinion, the proper medicine. It is unlikely that both locks will ever let the user down at the same time. In fact, being fairly familiar with the subject mechanically, we do not recall offhand any recorded instance of where a hunter has been mauled or killed because both locks of a double rifle failed to function properly. There are several instances where the hunters have been mauled when the first shot from a magazine rifle failed to stop the quarry and the gun jammed so that another shot could not be gotten home in time to prevent disaster. We admit that the double barrel rifle does not lend itself to a variety of loads, but, for that matter, neither does the magazine rifle in any save one or two calibers, notably the .30-06.

We regard the .375 Magnum, either double or magazine, as the most practical real big-game rifle in existence today. Only recently we are in receipt of a letter from probably the best-known builder of rifles of this type in America, who says: "I have just recently completed targeting and sent to a sportsman a .375 Magnum, the grouping of which was so incredible that I hesitated to send the targets to the purchaser, but, being a particularly fine shot himself, my diagnosis was confirmed by the customer, much to my delight." The .375 has one quality not found in any other heavy caliber sporting rifle. It uses three standard bullet weights, 235, 270, and 300 grains, respectively. Each of these three bullets with a full charge of powder behind it, fired from either the double or the magazine, has the same point of impact at 100 yards. Being fairly familiar with the rifles of the world, we know of no other possessing this quality. Please understand that neither one of us has personally tested these rifles on African game, but we have shot these large calibers at American big game, and, what is more important, tested literally thousands of these cartridges for a vast majority of the notable American big-game hunters who have taken rifles of this type into foreign game fields, after our tests at sighting them in.

Any one of the three .375 Magnums noted carries a terrific knockdown wallop and any one of the three has accuracy enough to hit the bottom of a tin drinking-cup consistently at 100 yards. There is, however, one serious criticism so far as the ammunition for the double rifles is concerned. Ninety-nine per cent of it is loaded with Cordite. Also, practically all of the English double rifles have the typical soft-steel barrels found in most English weapons. This combination will bring tears to the eyes of the owner of

a thousand-dollar Double Sporter every time he looks through its barrel. It is possible, however, particularly in the Holland & Holland rifle, to work up most excellent loads, using du Pont powder. A good friend of ours, living abroad, has recently written us a most interesting letter covering his experiences along this line:

"Some time ago I decided I would not fire another shot of Cordite in my double .280 Holland and the .375 Magnum H. & H., and I set about experimenting, and I feel certain you will be interested in results.

"I have proved to my own satisfaction that just as one may develop a special load for shotguns that beat all other loads in that special gun, the same holds true with regard to double rifles and the shooting together of the two barrels. Of course, it may depend somewhat on luck if this special load will give the same velocity as the one for which the rifle is regulated.

"This double .280 was originally regulated for 43 grains of Cordite and a 160-grain hollow-point bullet, but I had it regulated for the 140-grain pointed copper-cap bullet and 50 grains du Pont No. 16 powder, as loaded by Nobels Explosives, Ltd.

"The rifle shot this load with remarkable accuracy, and it still shot the old 160-grain load splendidly at 100 yards. I now wanted to find a load that would shoot the heavier bullet into the same group as the pointed one at sporting ranges, and pulled a lot of the old loads and made a grand bonfire in the garden out of the Cordite.

"After some trials, I decided on the du Pont IMR 1147 powder, and began with very conservative loads. As I gradually increased the load I saw the impacts of the two barrels gradually creeping together at 100 yards, and I stopped at exactly 49 grains, this load evidently having about the same pressure as the 140-50 du Pont 16-load, and the ejection of the fired cases being easy.

"Well, I got a nice 6-shot group at this range, measuring 1" x 1 1/8" right-and-left barrel. I was very anxious when I then went to the 200-yard firing point. Four shots right and left gave me a beautiful diagram measuring 1 1/4" x 2 1/2". I then fired two more shots right and left with the 140-grain bullet and 50-grain No. 16, and these grouped just below and well centered, the whole 6 shots being inside of 2 1/2" x 4".

"Pretty good accuracy for a double rifle and the despised English open hunting sights that Whelen says will only give 8- to 12-inch groups at 100 yards. Further shooting has confirmed the excellent accuracy of this load, and both loads will do for any range up to 300 yards with one fixed back sight.

"I now tackled the double .375 Magnum and loaded up cartridges with various loads of 1147 powder, but No. 16 seemed better in

(Continued on page 20)

# Ohio Rifle League Holds Match

By Dr. M. E. McManes

LONG before the announcement was made by the Ohio Rifle League that the Columbus Dispatch Tournament and the Ohio Championship matches would be shot in February, members of the various rifle clubs were getting in their preliminary practice and training.

When the specific dates were set and bulletins sent out the enthusiastic response was

tem of squadding and recording that is perfection itself. Both this and our outdoor system merit complete description to other clubs and will be fully detailed in a later issue of THE AMERICAN RIFLEMAN.

E. M. Farris, of Portsmouth, our genial secretary, is the hardest-worked man and the hardest worker in the O. R. L. He is unquestionably the real man for the place, and

10. However, a run of 50 consecutive V's is a record not to be sneered at.

As further evidence of the high quality of shooting done in this tournament, the records show that it took possibles to win in all matches except offhand.

That Ohio has some excellent metallic-sight marksmen was evident by the scores made in the tryout for the Ontario-Ohio International Match, where 20 men shot 198 or better to make the team. This should indicate some good material for the Dewar team at Camp Perry next September.

The registration sheets show a list of 152 actual competitors who fired in one or more of the matches. The ladies, Juniors, and pistol shooters were quite active and will have a permanent place on future programs.

A general résumé of the matches shows that champions do not always repeat. E. E. Busch, of the N. C. R. club of Dayton, shooting a Winchester 52 Fecker scope, and Peters "Tackhole" ammunition, came through in fine shape to win the *Columbus Dispatch* match, while E. J. Miller, of Hillsboro, shooting his special Peterson-Ballard rifle, Winchester 5-A



COLONEL MADDEN Firing Opening Shot

most remarkable. It seems the rifle fans knew Ohio could put on a real indoor shoot and each one was anxious to participate.

Early on the morning of February 25 shooters began to arrive and by noon, when the opening gun was fired by Colonel Madden, entries were more than sufficient to keep the range going continuously in full blast.

So many things contribute to the remarkable success of these indoor matches that it seems everything has been made to order.

First, we have the *Columbus Dispatch*, one of Ohio's foremost newspapers, contributing generously in space for all announcements and donating five handsome prizes—a Winchester Model 52 rifle as an aggregate prize, and four silver cups for high man in each of the four positions.

Then we are most fortunate in having such a fine, courteous set of officers at Fort Hayes. In fact, were it not for such men as Colonel Madden, Major Kaempfer, Captains Smith, Jones, and Johnson, a shoot of the magnitude and character such as this could not be held. It would be difficult to express proper appreciation for the assistance received through the officers and men stationed at Fort Hayes. All of the fans regret that Colonel Madden and Major Kaempfer are being transferred, and these gentlemen are assured of having the good wishes of every marksman who has been to Fort Hayes.

The Ohio Rifle League is very fortunate in having quite a few enthusiastic marksmen whose interest is greater than that of mere marksmanship. Q. D. Foster, of Delaware, executive officer of the O. R. L., is especially deserving of credit for his design of a sys-

all who attend these shoots agree that his labors form a large share of the success.

This tournament was a remarkable example of the writer's contention that the league idea of rifle clubs is the real backbone of interest in marksmanship.

During the past indoor season the clubs of Ohio have been meeting each other in shoulder-to-shoulder contests, and matches once, twice, and sometimes three times a week have been held. In some instances as many as six clubs are represented in these contests. These matches have a wonderful tendency to steady a competitor and to assist him in controlling that peculiar nervousness so common in match shooting. It also tends to induce more and better practice.

A glance over the scores made in this tournament will convince the most skeptical that "buck fever" was not an inherent part of the shooter's equipment.

EARLY in the game, H. H. Jacobs, of the Dayton Rifle Club, demonstrated his ability "to see, hold and squeeze" by running off the remarkable record of 131 consecutive V's. Mr. Jacobs used a Peterson-Ballard rifle, Fecker 10-X scope, and Peters "Tackhole" ammunition, in making what we believe to be a world's record, for which he received a silver cup from the *Columbus Dispatch* as high man in the prone position.

Homer Jacobs had a scare thrown into him by A. E. Hart, of Cleveland, who started out in most excellent shape to beat this record. However, Mr. Hart's "ear" slipped on his fifty-first shot and he went out for a wide



E. M. FARRIS



H. H. JACOBS

scope, and Winchester precision ammunition, won the Ohio championship. W. L. Rostron, of Sidney, using a Diller barrel on a Stevens action, Fecker scope and Peters ammunition, won the 75-foot metallic-sight match, tieing with C. F. Beall, of Columbus, each having a score of 200+ 18 V's. Rostron dropped his first V on the first shot, while Beall stuck it out until the 18th shot.

In the Junior Match, Miss Thelma Bennett, of Columbus, showed the way to the boys by making 98 on the Junior target. Robert Berner, of Dayton, a new recruit, was second with 92.

The Ladies' Match showed quite a bit of interest, as Miss Bennett was doing some very good shooting in re-entries, and it seemed a toss-up whether Miss Lintner, last year's champion, would relinquish her title or not. The strain seemed a little too much for Miss Bennett, as her match record showed a 95, while Miss Lintner came through with a possible.

The Pistol Match, while not so largely attended, yet showed sufficient encouragement to merit a permanent place on future programs. It was incorporated in this year's matches as sort of a feeler to determine just what the "handgun" fans would like.

The Re-entry Matches showed real holding ability. At 50 feet prone, 20 competitors each turned in three possible cards. At 75 feet, metallic sights, 10 competitors turned in three possibles each, while in the standing re-entry J. R. Moser demonstrated why he frequently wins by turning two 98's and a 99.

E. M. Farris came through in fine shape in the special match arranged for railway employees only, and won a handsome silver trophy that was donated for annual competition by the N. & W. Railway Y. M. C. A.

All in all, this tournament was unusually successful, and we believe Ohio can justly claim the record for indoor matches held in the United States.

Just as the above was written, a report came from Mr. A. C. Carter, secretary of the Toronto Indoor Rifle League, together with targets shot by our friends from Canada, in which their total was 3,906, as against 3,934 for Ohio.

In justice to the Canadian marksmen, it must be remarked that the boys from Ohio had an advantage, through a loss in the mails of targets sent to Toronto for practice purposes. A smaller black bull is used in Canada, and to offset this there was sent to them a quantity of practice-targets, but the writer did not know until the above report came that these targets failed to reach their proper destination.

Scores follow:

#### COLUMBUS DISPATCH MATCH NO. 1

Place	Name	Score	Place	Name	Score
1	E. Busch	491	57	R. O. Patterson	469
2	E. J. Miller	490	58	S. B. Kimmel	467
3	H. B. Clark	488	59	S. Hathaway	467
4	J. R. Faust	487	60	W. B. Jones	467
5	L. E. Klein	487	61	L. Gillispie	467
6	H. Hohns	487	62	A. B. Eisenbray	468
7	J. R. Moser	487	63	W. B. Allen	464
8	D. McMillan	486	64	C. V. Zuspan	464
9	F. Hortsman	484	65	H. H. Grimes	463
10	A. E. Hart	484	66	T. Polser	463
11	H. J. Nye	484	67	C. J. Mundy	465
12	A. H. Hofer	484	68	R. B. O'Neal	461
13	V. S. Compton	484	69	J. Harnish	461
14	V. S. Satava	484	71	Mrs. R. E. Davis	460
15	W. S. Rostron	484	70	H. Martin, Sr.	461
16	J. C. Deedle	482	72	C. W. Lewis	458
17	C. A. Dority	482	73	C. S. Mundy	457
18	Ben Riley	482	74	E. N. Littleton	456
19	C. Hikodyn	482	75	M. Dearie	454
20	H. Duke	481	76	G. S. Graham	453
21	S. C. Serman	480	77	S. W. McQualine	450
22	C. H. Horsman	480	78	E. C. Smith	449
23	S. Bender	479	79	J. H. Baldinger	459
24	C. E. Henderson	478	80	S. Bill	439
25	H. H. Jacobs	475	81	S. M. Davis	438
26	F. D. Wilson	478	82	E. Roush	437
27	A. P. Hesperlach	477	83	S. G. Borton	436
28	O. W. Hale	477	84	N. Bill	434
29	J. J. Noonan	477	85	E. Q. Starr	428
31	D. R. Maxwell	476	86	J. D. Acker	426
32	W. A. Ferguson	476	87	J. Martin	425
33	T. P. Lewis	475	88	C. W. Barnett	424
34	S. W. Teague	473	89	H. E. Reikelman	423
35	C. P. Beall	475	90	J. C. Denham	412
36	E. M. Farris	474	91	L. Talbott	406
37	E. D. Barden	474	92	E. H. Horderle	405
38	R. C. Eisenlohr	474	93	H. L. Machwart	402
39	T. S. Honaker	473	94	W. R. O'Neil	400
40	A. J. Yearsley	473	95	Wm. Mann	400
41	M. L. Bonta	473	96	J. C. Drake	399
42	A. J. Frits	471	97	A. E. Reesner	392
43	E. S. Hooe	471	98	D. S. Hunt	384
44	L. E. Wall	471	99	R. H. Bellows	384
45	H. J. Pessefall	471	100	J. Snyder, Jr.	381
46	P. E. Riley	471	101	E. E. Dennison	363
47	M. L. Ainsworth	471	102	T. Snelling	352
48	W. V. Mounts	471	103	C. W. Shone	339
49	A. Marriott	470	104	Dr. M. D. Miller	315
50	J. Peters	470	105	H. C. St. Clair	283
51	H. P. Parker	470	106	P. R. Clemson	274
52	W. D. Dabis	470	107	A. West	193
53	S. Sifrit	468		DID NOT SHOOT	
54	H. Cahill	468	108	Dr. M. E. McManes	
55	W. F. Foley	468	109	R. E. Rainsberger	
56	D. M. Beard	468			

#### MATCH NO. 2, 75 FEET. METALLIC SIGHTS

Place	Name	Score	V's	Place	Name	Score
1	W. R. Rostron	200	18	47	A. B. Eisenbray	195
2	G. F. Beall	200	18	48	J. Snyder, Jr.	194
3	J. E. Miller	200	18	49	S. Beale	194
4	H. B. Clark	200	13	50	O. W. Hale	194
5	M. L. Bonta	200	11	51	H. C. Duke	194
6	F. D. Wilson	199	17	52	J. C. Denham	193
7	J. C. Beedle	199	16	53	S. W. Teague	193
8	W. V. Mounts	199	15	54	J. T. Maris	193
9	A. E. Hart	199	14	55	V. S. Compton	193
10	R. O. Eisenlohr	199	13	56	H. J. Nye	193
11	F. Hortsman	199	11	57	R. G. Patterson	195
12	M. L. Ainsworth	198	13	58	L. E. Klein	192
13	H. H. Jacobs	198	15	59	A. F. Hesperlach	192
14	S. H. McGuinness	198	14	60	J. E. Faust	191
15	R. B. O'Neil	198	13	61	H. Johns	191
16	A. J. Yearsley	198	13	62	L. E. Wall	191
17	F. H. Nicklaus	198	11	63	H. H. Reikelman	191
18	S. D. Kimmel	198	11	64	F. C. Boles	191
19	J. J. Noonan	198	11	65	W. F. Foley	191
20	C. Nekydin	198	10	66	J. D. Kennedy	190
21	C. S. Mundy	197	13	67	J. D. Aker	190
22	E. S. Hooe	197	13	68	E. F. Horkoyle	190
23	C. A. Dority	197	13	69	F. E. Barnard	189
24	J. S. Martin	197	13	70	E. H. Littleton	189
25	E. M. Farris	197	11	71	S. Bill	189
26	R. H. Bellows	197	11	72	N. Bill	189
27	G. S. Mundy	197	10	73	C. V. Zuspan	189
28	Ben Riley	197	10	74	D. McMillen	189
29	Q. D. Foster	196		75	A. J. Frits	189
30	W. R. O'Neil	196		76	T. S. Honaker	189
31	J. R. Moser	196		77	P. E. Riley	188
32	C. H. Hortsman	196		78	Dr. M. D. Miller	188
33	C. E. Higgin	196		79	E. Q. Starr	188
34	R. D. Barden	196		80	S. Hathaway	186
35	H. S. Parker	196		81	R. E. Rainsberger	186
36	W. B. Allen	196		82	E. Berger	185
37	J. A. McComas	196		83	J. T. Balinder	185
38	W. A. Ferguson	196		84	J. Harnish	184
39	C. E. Henderson	196		85	C. E. White	177
40	A. H. Hofer	195		86	T. Shelling	147
41	H. Busch	195		87	S. W. Hoprath	97
42	L. Gillispie	195		88	NOT FINISHED	
43	C. H. Murphy	196		89	H. Martin	95
44	S. G. Barton	195		90	F. Pfeiffer	87
45	H. J. Pessefall	195		91	DID NOT SHOOT	
46	T. Folger	195		92	Dr. M. E. McManes	

#### MATCH NO. 3, OHIO CHAMPIONSHIP

Place	Name	Score	Place	Name	Score
1	E. J. Miller	690	18	C. F. Beall	675
2	H. B. Clark	688	19	J. J. Noonan	675
3	E. Bush	686	20	G. H. Hortsman	675
4	W. L. Rostron	683	21	H. C. Duke	675
5	F. Hortsman	683	22	D. McMillen	675
6	A. E. Hart	683	23	C. E. Henderson	673
7	J. R. Moser	683	24	R. O. Eisenlohr	672
8	J. C. Beedle	681	25	M. L. Bonta	672
9	C. Nekydin	679	26	E. M. Farris	671
10	C. A. Dority	679	27	W. A. Ferguson	671
11	Ben Riley	679	28	A. J. Yearsley	670
12	A. H. Hofer	679	29	R. D. Barden	670
13	L. E. Klein	679	30	W. V. Mounts	670
14	J. E. Faust	678	31	M. L. Ainsworth	669
15	H. Johns	678	32	S. W. Teague	668
16	F. D. Wilson	677	33	S. D. Kimmel	665
17	H. H. Jacobs	676	34	L. E. Wall	662

(Continued on page 26)



E. E. BUSCH

# A Little About Smith & Wesson Revolvers

By Morve L. Weaver

IT IS well to begin by making clear to the reader that this article is not intended, in any way, to be considered a history or authoritative data regarding the Smith & Wesson firm or any of their manufactured articles, being more in the way of a résumé of things and dates that appear to have been lost or forgotten.

We learn that the firm of Smith & Wesson was founded in 1849 at Norwich, Conn., by Horace Smith and Daniel B. Wesson, the latter a younger brother of Edwin Wesson, who was a gunsmith of ability and one of the inventors of the Wesson & Leavitt revolver, which at one time threatened to be a serious competitor of the Colt revolving pistol.

Learning his trade with and working for his brother, D. B. Wesson seems to have set up in business, pistol making, in 1845 at Groton, Mass.

The new firm of Wesson & Smith must have prospered, nearly from the start, for in 1856 they moved from Norwich to a building on Market Street, Springfield, Mass., where they began the manufacture of metallic cartridge revolvers in connection with their other lines, which included the repeating pistol, the forerunner of the Winchester repeating rifle.

By 1859 they had built their business to a point where enlarged quarters were necessary, and they moved to a new building on Stockbridge Street, Springfield, and almost immediately sold their rights to the repeating arm to the Volcanic Arms Co., and concentrated on the manufacture of revolvers.

They secured a patent, August, 1854, on a central-fire metallic cartridge with a lubricating wad between the powder charge and the ball, and at about this time are said to have conceived the idea of a revolver to use this cartridge.

Rollin White, who at times made revolvers for the Smith & Wesson firm—one available marked "Smith & Wesson, by Rollin White, Lowell, Mass.," and with patent date December 18, 1860—was given a patent in 1855 for a revolver in which the chambers of the cylinder were bored clear through, not infringing on Colt's patent, it being his intention to load from the rear of the cylinder with ball and loose powder, or with the paper cartridge then in common use, closing the rear of the chamber with a perforated wad and firing through a single nipple set in the frame of the gun, necessitating capping for the discharge of each separate chamber of the cylinder.

The arm was never made as patented by Mr. White, but the patent, purchased by Smith & Wesson, was of great value in the development of their cartridge revolvers.

As Smith & Wesson defended this feature of through-bored cylinder with great vigor and success, other manufacturers were driven

to many methods in evading this feature of the patent. Some used a cartridge whose shell was flanged at the front and which was inserted at the front of the cylinder instead of at the rear. Another maker loaded the chambers of his revolver at the side. Others divided the cylinder into two parts, the rear section forming the recoil base for the cartridge, instead of allowing the frame to take the shock. L. W. Pond, of Worcester, Mass., seems to have adopted a number of the features almost distinctively Smith & Wesson, as the hinged frame, dating back to the Wesson & Leavitt, and a bored-through cylinder which we find in one of his revolvers, a .32 caliber rim-fire bearing the single patent date, July 10, 1860, and which must have attracted the attention of the Smith & Wesson firm, for the next specimen of Pond's revolver, patented September 8, 1863, has the rear of the cylinder solid, each chamber containing a steel tube in which the cartridge was loaded, then tube and all loaded into the front of the cylinder. In this model of Pond's the barrel tips down like the later Smith & Wessons.

Other patents secured by this firm were those of June, 1858, for a folding hammer, the thumb-piece jointed and acting to disengage the catch of the cylinder-stop, which was over the cylinder; an earlier patent, February, 1854, when they secured the right to cock a piece by the use of the trigger-guard as a lever, a feature probably of their repeating pistol. This patent also covered an extractor for metallic cartridges, not used in the repeating arms. In July, 1859, they were granted a patent whereby the nose of the hammer operated the cylinder-stop.

Gen. C. B. Norton states that in April, 1860, Smith & Wesson secured a patent for a rim-fire cartridge which was very satisfactory and "more cheaply made in small calibers than their original center-fire cartridges." This information rather upsets the accepted belief that the rim-fire came first (after the pin-fire). At any rate rim-fire arms were in common use before the self-primed center-fire cartridge became commonly known.

Norton, apparently writing exclusively from data furnished to him by the firm, says that they had developed their revolver and secured patents for it in July, 1859, and December, 1860, and "proceeded with the manufacture of the first metallic cartridge revolver in America," a claim that now, seemingly, cannot be controverted.

The revolvers which they "proceeded" to produce were in two calibers only—.22 with conical bullet weighing 34 grains and with three grains of fine, black powder, and the largest size, a .32 with 103-grain bullet and 13 grains of the same sort of powder, the last with six-inch barrel.

Norton continues: "The demand for these two arms, together with a lighter, round-handled modification of the larger pistol, was so great that up to 1867 they added no new models and solicited no foreign business and still booked orders two years in advance."

The first .32 revolver was said to have been particularly popular with Army and Navy officers during the War of the Rebellion.

Here begins the lost models and dates. That the .22 caliber pistol was made in both round and square-end grips is certain, just as was the early .32, and that in addition to the two-cylinder stop-catches mentioned above, a stop was made for these two sizes that engaged notches on the surface of the cylinder. There also exist revolvers, undoubtedly of their make and with the tip-up barrel, evidently made early in the '60's, that are six-shot, with six-inch barrels, with a total length of 10½ inches and that use a .38 caliber rim-fire cartridge. With this variant from apparently authoritative "history" who shall say that a still greater variety was not manufactured?

From 1867 or 1868 the firm rapidly improved their weapons and added new calibers, but it is interesting to note that their system of simultaneous extraction was bought in 1869 from W. C. Dodge, who had patented it in 1865, the patent covering the opening of the frame at the rear of the cylinder. C. A. King, probably in 1869 (one authority says 1860), had patented and sold to the Smith & Wesson firm the automatic extractor so familiar in the drop-barrel models of yesterday. Dodge's patent of 1865 seems to have been used by Pond in the example which carries a single patent date, and that in 1863.

The first model Smith & Wesson with Dodge's and King's improvements is properly called the 1869 model and is the one submitted to the ordnance board of the United States Army in that year and which was given second place in the order of military merit in the report of the board headed by General Schofield in 1870. This board, following one headed by General Sherman, which failed to file a report of their findings, gave first place to the Remington single-shot .50-caliber pistol, and followed the Smith & Wesson (given second place) with endorsement of four models of Remington revolvers, mention probably being also made of the converted Colt open-frame revolver.

It should here be noted that all models of Smith & Wessons, prior to 1869, had barrels hinged at the top of the frame in front of the cylinder, and tipping up, so that the cylinder could be wholly removed from the frame. Closing after loading, these earlier models latched to the main frame under and in front of the cylinder.

It is quite likely that the manufacture of

the early rim-fire models was continued, with minor modifications, until the adoption in 1880 of the central-fire pocket models in .32 and .38 calibers, the .22 pocket size being then discontinued and the .32 model supplanted with the improved arm.

It is quite certain that this first large Smith & Wesson of breakdown, simultaneous-ejection type, was of .45 center-fire caliber, single-action, with guarded trigger (all former models had had the sheath or "stud" trigger), and a plain snap-down catch fastening barrel to frame when closed. This first or No. 1 fastener was very like the one commonly used on the .38 pocket revolvers of the late '80's and '90's. This weapon also had the plain handle with simple curve and without the "crest" or "saw-handle" so distinctive of their later models.

Just how General Schofield figured in this revolver, or in a later model, other than by endorsing it for Army use (second choice) is not plain.

A correspondent assures the writer that he possesses a specimen marked "Schofield's Pat.," but this may have been some employee's idea of the abbreviation of the word "pattern," or the doughty general may have been accountable for the improved barrel fastening which soon came into being, the one which pulls back to unlatch the barrel and cylinder, and which is seen on the revolvers which were once in Army service, there adopted according to one authority in 1873. The ammunition says "Schofield Pattern."

From this time on, the Smith & Wessons seem to follow the method of calling each variation "Our New Model," and omitting any date or distinctive name, probably an excellent business method, for a buyer would have the word of a distinguished firm that he was securing their latest model, no matter how long obsolete, but very confusing to one endeavoring to find the sequence in manufacture. Even today their trade names are apt to confuse one, but they are not alone in not distinctly marking models or years.

General Norton published two books in which extended reference, quite apparently from "office" data, is made to the Smith & Wesson products, but in the book of 1882 he copies much that was published in 1872 (his other book), and without unscrambling the dates, each reading "now." He makes plain the "New (1873-5) Model .44 Army" and shows it with the crested handle and the "No. 3 fastener," which is very like the first, or snap-down sort, but with a notch in the hammer which engages a projection from the snap and insures against the barrel being unlatched until the arm is at least partially cocked.

Just when the Russian Model revolver was first made or its exact difference from its predecessors is uncertain. The only conclusive evidence is that the crested handle was a feature brought out in 1873, and that this "hump" or crest was a distinctive feature, for it was immediately copied by other makers and almost universally called their "Rus-

sian Model," and sold at a price a little higher than the round-handle guns, then customary.

Appeals to the Smith & Wesson people for enlightenment seem to fall on deaf ears, and it is more than probable that the model dates of these past and forgotten models will be as puzzling to our successors as is the identity of the assailant of the well-known and lamented Mr. Patterson, and about as important.

Another 6-shot, .32-caliber Pond revolver with tip-up barrel is marked "L. W. Pond, Worcester, 1860, Manuf'd for Smith & Wesson" and does not serve to lessen the fog of mystery.

Cartridge lists of 1900, no earlier ones being at hand, disclose that some ammunition factories were then, in addition to the .22, .32, .38, and .44 rim-fire cartridges used by the Smith & Wesson revolvers, making a caliber .46 short, rim-fire, with 26 grains of black powder and 230 grains of lead and for Smith & Wesson revolvers.

In center-fire, in addition to the 73 Winchester cartridges used by some of the Smith & Wessons, the same catalogue lists the .44 Smith & Wesson American, powder 25 grains and lead 205, the .44 Smith & Wesson Russian, 23 grains powder and 255 of lead, and a .45 Smith & Wesson Schofield with 30 grains of powder and 250 of lead, as compared with the Colt .45 load of 38 grains powder and 255 of lead.

Another puzzle is the two center-fire cartridges, the one marked .38 Smith & Wesson and stated to be adapted to Smith & Wesson, H. & P. and H. & A. revolvers, and the second with a duplicate load but with outside lubricated bullet and marked as adapted to Merwin, Hulbert & Co. and "Smith & Wesson No. 2" revolvers. Just what and when was the "No. 2" in center-fire? The first or tip-up in .32-caliber was called their No. 2 at one time.

Until about 1890 the tip-down models grew numerous, but their dates of adoption is a mystery. Their double-action in .44 Russian and .38 and .44 Winchester, and other calibers, became quite popular in the extreme West, particularly with peace officers and bandits, but the date of the coming out of these is uncertain. Examples of this model are scarce in central California, owing to the demand—and supply—of tourists for "just one of the revolvers carried by poor Chris Evans" or his partner in crime, "dear, dead, John Sontag." Literally dozens and possibly hundreds of "genuine" Evans & Sontag revolvers were sold by relatives of Evans.

It would be of great interest if some one would step forward with this data, now lacking, and not only to the benefit of an army of collectors of old firearms, but so that those still using these beautiful old weapons might be certain of the exact time that their pets were conceived.

Here are just a few questions that might be answered, just to start the ball rolling: When and why were the revolvers (Smith & Wesson) adopted by the Army in 1873 supplanted and sold, practically as junk, in the

early '90's? Why was the "1873-5 .44-caliber New Army" not made regulation, and why the change from .45-caliber, if for United States Army use? Which was made first, the .44 American or the .44 Russian, and how did the models differ, except in cylinder boring? Were the models made for the Russian Government adapted to the cartridge so called, and did the model name, since so common, apply to the design of the cartridge or to the pattern of the revolver? What was the exact model of the Russian pistol and what comprised the Schofield and Winans models?

QUITE recently *THE AMERICAN RIFLEMAN* published a very interesting article from the pen of Henry Walter Fry, in which it is stated that the .32 rim-fire Smith & Wesson was a model following the .22 Norton. Probably writing in 1871, and in a neighboring State, he says positively that the two calibers were made at the same time.

Mr. Fry's dating the American model in 1870 may be a part of the information we are in search of, although other authorities give 1869 as the date of the beginning of the "first breakdown, self-extracting model."

Regarding the peculiarities of the cartridges, it is almost certain that the Russian was the first inset, inside-lubricated bullet, all prior having been "heeled" bullets with a diameter the same as the outside of the shell, while the Russian .44-23-255 required a cylinder bored to two calibers and with an inferior shoulder.

If Mr. Fry is correct, and the Smith & Wesson people began turning out revolvers in 1870 for the Russian Government, then the crested handle, a feature appearing first in 1873, was not supplied to all of the Russian arms.

His statement, that in 1876 General Schofield designed a Smith & Wesson revolver and that 5,000 were made and some issued to troops of the United States Army, and that this arm had the plain handle (without crest and as the Model 1869) and the pull-back barrel catch, is open to question, as is his statement that this was the first of their revolvers of .45-caliber.

Norton states plainly, and he wrote almost contemporaneously and with apparent authority from the manufacturers and access to the ordnance board reports, that the first Smith & Wesson tried out by the Schofield Army board was of .45-caliber, and he shows it with the "No. 1" barrel-catch and the "New (1873-5) Model Army" with crested handle and "No. 3" catch, leaving us to infer that the third style catch, his No. 2 (not shown), was the pull-back style and dating somewhere between 1869 and 1873, while another writer states positively that the Smith & Wesson was furnished to the troops of the United States Army in 1873. It has been suggested that to General Schofield might be due the change in the barrel catch and the adoption of the pull-back or No. 2 fast.

If the date of adoption by the Army was as late as 1876, was this arm expected to supersede the S. A. Colt .45, which had been made regulation in 1873?

# In Search of a Vermin Rifle

By Capt. Chas. Askins

**B**IG-BORE, large-game rifles are numerous today; vermin rifles are not so easy to find, and in small-game rifles we haven't a good one. Big game entails very little expenditure of ammunition—a man may go through the entire year and not fire six shots. Small game we are not going to dwell upon here, but vermin affords a lot of rifle practice.

Vermin is usually considered anything from wolves to woodchucks, including hawks, crows, and jack rabbits in the West. The vermin rifle is also right for wild turkey and for geese. Shots will always be as difficult as the skill of the marksman will permit, for all the birds and animals included under the name of vermin have been persecuted more or less, and are wild enough to demand shots at very long ranges, considering the size of the mark. The rifle, therefore, must have the finest sights, the highest degree of accuracy, the flattest trajectory, and a surplus of power is rather a benefit than otherwise, nobody caring how big a hole he makes in a woodchuck, hawk, or crow.

This idea of ample power being essential has led many to use big-game rifles for woodchucks. However, when all is said, this thing of putting a .30-06 rifle to woodchuck work is something like hitching a Pennsylvania freight engine to tram-cars. Besides, there is the little item of 10 cents a shot, and we want to get away from that where crows are thick. Rifles like the .30-06, .30-40, 7 mm. Savage 300 and 300 Magnum are rather disgraced by turning them into small fry.

Of real vermin rifles, as I call them to mind, we have the .25-20 in High Velocity and High Speed, the .32-20 in High Velocity and High Speed, the .25-35 and .25 Remington, the .22-22-55 "Baby" Niedner, and the .22 Savage High Power. All these rifles have merit for our purpose. The Baby Niedner I do not know very well yet, but the cartridge looks just right. The .25-calibers are fine vermin rifles in every essential, the .25-35 being the best. However, we are going to look at but one rifle this time, and that is the .22 Savage H. P.

A vermin rifle ought to have a velocity in the neighborhood of 2,500 feet in order to insure a trajectory flat enough not to overshoot or undershoot a four-inch mark to 200 yards. At this velocity bullets, preferably, should be spitzer-pointed, so as to cut the air, and the missile should be heavy enough not to be easily deflected in a light wind. The essential accuracy might be taken as not worse than a two-inch group at 100 yards, and not worse than five-inch at 200. The .25-20 and .32-20 will fall under this a bit, though either will come pretty close to shooting two-inch groups at 100 yards. The .25-35-117 has ample accuracy, being one of the finest shooting rifles now made in America. The Baby Niedner is a nail-driver, they tell me, and that leaves the Savage .22 H. P.

When this rifle and cartridge came out the gun was tested by an expert, who declared that he easily kept 10 shots in the military bull at 800 yards. Subsequently the rifle had a great run. It was used on all kinds of big game, including the royal tiger. Everybody said it was a killer on moose, bear, deer; anything that came along. Then, after the well-known American fashion of first putting a man or an object up on a pedestal and then deliberately knocking him or it off, came a reversal of opinion. The .22 H. P. was said to go to pieces on the surface sometimes—lacked penetration; it lacked power in general, and at last Major Whelen, in *THE AMERICAN RIFLEMAN*, pronounced it a rather inaccurate cartridge. It was said to require a four-inch circle to hold 10 shots at a hundred yards. The man who had sworn by the little rifle previously, discarded it now. Few were being bought; the man who still shot big game with it kept the fact under his hat. I am not claiming now that the Savage .22 H. P. is a big-game rifle, but we are in search of a vermin rifle.

**A**T THE time the Savage .22 H. P. came out the company was bent on reducing the weight of their rifles, from a mistaken notion that this was what people wanted—very light rifles. From my point of view, any man who deliberately selects a rifle weighing under seven pounds has something effeminate in his make-up. The Savage Arms Corporation is not doing that now, being rather headed in the opposite direction, but some other firms are. In any event, the .22 H. P. was brought out in the lightest barrel made by the company, with a barrel twenty inches long. The light weight was there all right, and all the consequences of an ultra light barrel.

Now, from my point of view accuracy in a rifle is as much due to outside dimensions as to inside dimensions. Rifle barrels, when fired, they tell me, vibrate like a fiddle string when struck by the bow—just play a tune while the bullet is traversing the bore. However, if the fiddle-string were made of one-inch cable it wouldn't vibrate very much under the stroke of the bow, and it follows that heavy barrels vibrate less than light barrels—vibrate less, whip less, jump less, and move less under the stroke of the hammer. The United States Government has found it necessary in testing ammunition to use a barrel weighing around forty pounds, which is carrying the principle of the heavy barrel to an ultimate conclusion.

I had something of this kind in mind when I asked the Savage Arms Corporation to send me the heaviest rifle and the longest barrel made in .22 Savage H. P. The gun came in their 99 Model, with 26-inch barrel, weighing 8½ pounds. I asked them if the gun would shoot three-inch groups at 100 yards, and they had some misgivings about that. Nevertheless, the "big-little" gun was a success from

the beginning. It was tested with Winchester, Remington, Peters, and United States cartridges, shooting groups from two to three inches—never worse than the last figure with any kind of ammunition. The United States shells proved a trifle the most accurate in this barrel, and several two-inch groups were shot with them at one hundred yards, from a sandbag rest, with iron sights. In fact, this gun became known as the easiest rifle we had to shoot into a two-inch ring at 100 yards. Instead of having a limitation of four-inch groups from a rest it will shoot four-inch diagrams offhand, and has done it more than once.

In order to learn its trajectory and sighting the rifle was now turned on targets at longer distances. By shooting it at 300 yards and putting up intermediate targets it was decided that the trajectory was about six inches high over the course. This is not in accord with Hoyle, who says eight inches, but remember that if the 20-inch barrel shows a velocity of 2,800 feet the 26-inch barrel ought to raise that to 2,950 feet. The gun was now sighted in at 100 yards, sighted at 6 o'clock to strike the center of the small-bore bull, after which it was turned on the seven-inch small-bore bull at 200 yards, and landed all shots into the bull with a 6 o'clock hold. Going back to 300 yards, it was learned that a hold full on the bull would strike the black; with one sight setting all shots struck the black from 100 to 300 yards. Subsequently the little gun was sighted in for 600 yards and shot 46 out of 50, but while accurate was found very sensitive to wind at this distance.

Factory shells developed a pretty stiff pressure, the shells expanding to such an extent that difficulty was found in reloading them. It was desired to find some load at velocities and pressures a bit under standard. After a great deal of experimental work, in which it was found rather difficult to fit the gun with reduced loads, a good cartridge was loaded containing 25 grains of du Pont No. 18 powder and the United States Cartridge Co. 70-grain bullet. This load proved no less accurate than the factory cartridge, and had a calculated velocity of 2,600 feet. Cartridge cases no longer markedly expanded and could be reloaded at will. One target is shown at 100 yards with this hand-load, and it is certainly equal to a two-inch ring at a hundred yards.

Test firing with the hand-load indicated that when sighted in to rise from 6 o'clock to the middle of the bull at 100 yards, the gun would shoot too high at 150 yards. The sight was then lowered to strike only two inches over the front sight at 100 yards, whereupon it landed in the bull at all ranges

(Continued on page 33)

## THERE'S SAFETY IN RIFLES

By COL. WILLIAM LIBBEY

IN AN article for THE AMERICAN RIFLEMAN, on the importance of rifle shooting,

I do not think that I could do better than repeat what I wrote as an introduction to the booklet by Col. James A. Moss, United States Army, some ten years ago. The subject of the book was "How to Shoot," and it was one of a number of such publications urgently needed at that time, when the attention of our citizens was very forcefully called to the subject of this most important part in the scheme of preparedness by the great war upon which we had embarked. The same facts hold good today, and my words at that time, written under the inspiration of a great need, are timely now, for the reason that we, as a people, have always underestimated the value of such training.

There was a time when we could be considered a nation of rifle-shots. Early in the Revolutionary period, certain prisoners of war were taken across the ocean to demonstrate the really dangerous foes we were, because of the wonderful skill at short ranges which had been developed by the daily use of the rifle. It was the faithful friend in times of peace or war. It provided the main articles of food for the household, and protected the fireside from intrusion. But, like many another friend, when safety and plenty surrounded those early homes, and game became somewhat scarce, it was forgotten, and when remembered it was placed above the family hearth, and there revered for what it had done in the past.

Rifle shooting as a diversion was later on kept alive by a few devoted lovers of this kind of outdoor sports. Then came an era of invention, which made the rifle of today a remarkable and scientific instrument. In the hands of a skillful student of conditions it can be made to do wonders, far greater even than driving a tack at fifty yards.

All this is, of course, a mystery to the novice, but as he begins to realize the possibilities of the game, he becomes fascinated by the really scientific problems of ballistics. These problems are complex enough at times to puzzle even the most acute observer, but when mastered, they are most satisfying in their results, both objectively and subjectively.

Since the recent revival of the American spirit of preparedness, many thousands of our younger men are turning back to the old friend of their fathers, now a very different looking gun from the long and heavy rifle of the early days—a piece which can be trusted at a thousand yards as fully as their ancestor's could be depended upon for less than a hundred yards. With this greater range and accuracy have come greater penetration, and our modern rifle has become a most formidable weapon of defense. It is well worth the trouble taken to master it. Aside from its value as a means of training, it is a clean sport, as it demands of its votaries keen eyes, good judgment, steady nerves, and strong muscles, and who ever heard of these except as the result of a clean and honest life?

We should always be, judged by our ancestry as well as by our own good sense, a race of citizen soldiers, confident, by reason of our skill at arms, that we can each contribute our full share to defend our institutions if needed. There is ultimately no greater guarantee of confidence than this trust in our arm of service, and the knowledge that we can use it to the uttermost.

When this period arrives we shall be again respected as a nation of rifle shots.

For years the National Rifle Association has been helping to form public opinion with regard to this most important item in the preparedness program. Skill in the use of the rifle can only be secured by serious and well-directed practice. The association has provided the material in the shape of equipment and instructors and has well-developed plans of organization for the formation of rifle clubs all over the United States. In this effort to popularize the shooting game the most important element is found in the emulation developed by competition. Heretofore the National Matches, with the numerous prizes presented, have played a most important part, and it would be a great mistake to drop them. They may be expensive, but they are too valuable to be omitted. Many of our legislators do not realize their worth, and strenuous efforts should be made to see that they are kept supplied with up-to-date information. Only a persistent struggle can bring this about, and each of us can contribute our share in this way if in no other.

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## REGULATIONS FOR HUNTING MIGRATORY BIRDS CHANGED

AMENDMENTS AFFECT BAG LIMITS, SEASONS, AND METHODS TO BE USED

AMENDED regulations under the Federal migratory-bird treaty act, which became effective at once, have been adopted by Secretary of Agriculture Jardine and approved by the President. During the next hunting season it will be unlawful to take more than four woodcock a day (instead of six as formerly), and the only shore birds that may be hunted during the seasons 1927 and 1928 are jacksnipe and woodcock, a two-year close season now being prescribed for greater and lesser yellowlegs. No changes are made in existing regulations affecting the length of seasons or size of bag limits on ducks and geese.

The use of sink-boxes on inland waters is prohibited, but on coastal water sink-boxes may be used under restrictions that provide that each one must be at least 700 yards from any shore, island, or other sink-box. The use of motor boats and airplanes to drive and rally ducks and to keep them moving and thus provide better shooting, is prohibited under the new regulations.

Local changes in the regulations affect the dates of open seasons for hunting wild fowl in northeastern California and northern Idaho. In northeastern California the season is made October 1 to January 15, instead of the later period of October 16 to January 31, thus conforming with the season in southern Oregon, where climatic conditions are simi-

lar. In the five northern counties of Idaho the season is also made earlier to harmonize with that in Montana, as the two areas are climatically similar, the new season on wild fowl there being September 16 to December 31 instead of the former October 1 to January 15.

The foregoing amendments to the migratory-bird treaty act regulations were adopted by Secretary Jardine after careful consideration by the Biological Survey and public hearings on the matter.

The effect of amending the regulations to provide a two-year close season on greater and lesser yellowlegs is to place all species of shore birds, except Wilson or jacksnipe and woodcock, on the list of migratory birds for which no open season is at present provided. No shore-bird shooting will be permitted in 1927 and 1928 by Federal regulation except in the case of woodcock and jacksnipe. Reports show that yellowlegs have not been increasing, and it becomes desirable to protect them completely for two years to give them a chance to multiply sufficiently to allow a moderate open season at the conclusion of that period.

The use of sink-boxes on inland waters will no longer be permitted. It has been found that the use of this wild-fowling device on the comparatively restricted feeding and resting grounds on inland waters has an injurious effect in driving ducks from these areas, and in addition the marked decrease of marshlands through drainage and evaporation renders this amendment all the more desirable. Under restrictions the use of sink-boxes will still be permitted on costal waters, though the new regulation requires that each box be 700 yards from any shore or island and 700 yards from any other sink-box.

In that portion of northeastern California comprising that part of Siskiyou County lying east of the main line of the Southern Pacific Railway, all of Modoc, Lassen, and Plumas Counties, that portion of Shasta County lying east of the summit of the Sierra Nevada, and those portions of Sierra and Nevada Counties lying east of the summit of the Sierra Nevada and north of the Southern Pacific Railway from Truckee to Calvada, the open season on wild fowl under Federal regulation has been changed from October 16 to January 31, to the period October 1 to January 15, to correspond with the existing open-season regulations for Oregon. The area specified by the regulation has climatic conditions similar to those of Oregon and sharply different from the southern portion of California. Owing to this climatic difference within the State the migratory-wild-fowl season is advanced some two weeks earlier in northeastern California than is the case in portions farther south. As a consequence an earlier opening date is desirable, so that the sportsmen of the section may have an opportunity to hunt equal to that enjoyed by gunners elsewhere.

A similar condition existing in northern Idaho has been noted and corrected by the provisions of the changed regulations. The territory included in the counties of Boundary,

Bonner, Kootenai, Benewah, and Shoshone is given an open season on wild fowl from September 16 to December 31, instead of October 1 to January 15, as it has been under the old regulation. The new daes for northern Idaho correspond with those for Montana.

### NEW SHOTGUN STANDARDS

(Continued from page 10)

away when you face it with a shotgun; and shooting at a 24-inch sheet of paper at this distance and longer ranges gives a shotgun a pretty severe pattern test. This target contains 64 three-inch squares, and 1.9 hits per square, or 122 on the target is the same as the standard 150-pellet, 30-inch pattern, or 62 per cent. By adding 2 per cent per yard, we can figure what any load would give at the standard targeting distance of 40 yards.

Results with the 6 1/4-pound Ithaca and Remington Nitro Express No. 6c follow:

Pellets	Hits Stand. per Pellet	Mean	Duck	Per Cent
50 yds., full choke 26-in. bbl. . . . .	103, 97, 96, 114	102.6	1.6	55.7
50 yds., imp. cyl. under bbl. . . . .	65	65	1.	29
60 yds., full choke bbl. . . . .	63, 71, 51, 72	64.3	1.	40.6
80 yds., full choke bbl. . . . .	36, 30	33	(Flock Pat. Only)	

The other Model 1926 weighed 7 1/4 pounds, was full-choke, barrels 30 inches long. This is a better barrel length for progressive burning powder, and the added pound in weight made it better adapted to the powerful Express loads. Even in this gun the kick was disturbing. This gun had a straighter stock than the light one, and about the same pitch. It handled beautifully. As to ballistics, I have shot enough Ithacas to know that it would shoot as good as any shotgun of similar dimensions.

In judging these patterns it is well to bear in mind that they are not shot with target loads but with long-range ammunition, giving all the velocity it is possible to cram into a 2 3/4-inch shell behind a full 1 1/4 ounce of shot. Their punch was convincing, the shot charges hitting the pattern-board with a resounding, flat slap, and showed a remarkable lack of the usual stringing out. In trying the handling qualities of the guns, we hurled blocks of seasoned wood and slabs of rock into the air; also rolled flat rocks down the hillside, 20 yards from the shooter.

The fact that not a miss was registered, even when most of the targets turned edge-wise with only an inch exposed, speaks well of these new Ithacas, and the loads revealed surprising driving power. The 30-inch, 7 1/2-pound gun was slower, catching the targets at longer distances, but the 26-inch, 6 1/4-pound gun shattered rocks and wood blocks alike. These rocks were tougher than sandstone, but not so hard as Pennsylvania ganister—more like the lower magnesium limestone found in Minnesota. Shattering these targets at short range like Hi-Power rifles, the Remington Nitro Express was a revelation to me in shotgun power.

Results with the 7 1/4-pound Ithaca and Nitro Express follow:

Pellets 24" Tar.	Mean	Hits Stand. Per Pellet	5" Sq.	Per Cent
50 yds., full choke	118, 109, 130	119	1.8	60
60 yds., full choke	74, 71, 60, 84	72.3	1.1	45
65 yds., full choke	50, 66, 38	51.5	0.8	34.2
70 yds., full choke	46	46	0.7	33
75 yds., full choke	45, 43, 42	43.5	0.65	31.2
80 yds., full choke	52	52	0.8	41

RESULTS of my test show that single birds may be taken up to 60 yards. Any set of targets at a given range averaging less than one pellet per 3-inch square will drop birds occasionally, but are not to be considered effective for that range unless single birds can be hit with at least one pellet with certainty. While these loads showed that they would certainly kill birds up to the longest range tried (80 yards), providing the bird was struck, the patterns were not dense enough beyond 60 yards to be dependable for anything but flock-shooting.

This only confirms my conviction that 12-gauge effectiveness is limited to 60 yards, for these Nitro Express results have never been bettered, all in all, in any of my test-shooting. If the gunner wants more than this very ample range the logical method is to employ the 10-gauge and 1 1/8 ounces of shot. The problem of landing on the bird at ranges above 60 yards is enough to make the wisdom of attempting to reach beyond that dead-line doubtful at best. For range comparison of pattern with a 100-yard load we tried 1 1/4 ounce BB shot and 26 grains Ballistite at 65 yards, getting 13 hits on the target; at 100 measured yards the same load gave us only five hits.

I am enclosing exact reductions of some of the typical targets secured in the test for those who may be interested in the appearance of an effective pattern. Those shot at 50 and 60 yards are effective single-bird patterns; the one shot at 80 yards would be dependable for flock-shooting only.

### THE DEWAR TROPHY

(Continued from page 12)

cent at 50 yards and 97 per cent at 100 yards. Whether we shall win the 1927 and succeeding Dewars may depend almost entirely upon whether we allow our experienced American small-bore shooters to fire under favorable conditions or whether we will deliberately compel them to lower their own average scores, and consequently our team scores, by shooting between 10 a. m. and 4 p. m. That lower score, by the way, in some cases will be as much as 2 or 3 per cent on either a very windy day or one on which there is much mirage. Three per cent of 400 points is 12 points per man. One per cent of 400 is 4 points. Other things being equal and the two countries as well matched as they are today, and with averages of 98 and 97 per cent, it is doubtful if either nation can give the other an admitted advantage on account of weather of over 1/2 to 1 per cent per man and produce a winning score.

Some of us in the past prided ourselves a great deal on the coaching ability of Americans and the success of the coaching methods which have been employed with American small-bore teams previous to 1926, but is it

not a fact that friends from the other side of the pond have shown us conclusively when and how a Dewar ought to be shot? The score would suggest that they have.

Great Britain's small-bore shooters are to be congratulated not only upon a game, uphill fight and a remarkable score, but upon using that kind of judgment that brings success.

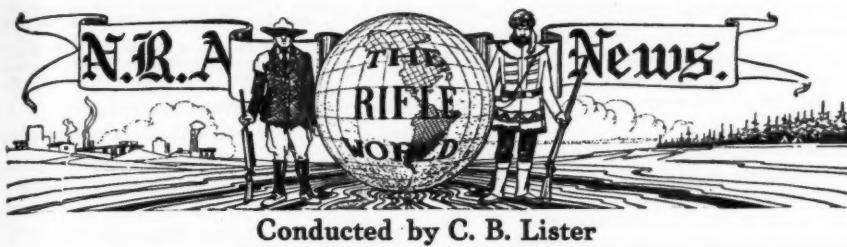
### DOUBLE-BARREL SPORTING RIFLES

(Continued from page 13)

this big shell, so I tried the latter. Pressures were higher than with Cordite and velocities probably less, but after considerable shooting and loading I fixed on 67 grains of du Pont No. 16 and a 270-grain Lubaloy bullet. With this load I at last made a 6-shot group at 100 yards, firing right and left barrels, that measured 1 1/8" x 1 15/16". After a couple of sighting shots at 200, I put 4 shots right and left inside 2 5/8" x 3 1/2", showing that the barrels with this load shot together also at the longer range and the rifle evidently shoots far better with this load than with the factory Cordite load. The impact of the shots at 200 yards showed very little drop, so it seems I am not so far from the standard velocity.

"I had now fired a good many rounds, and most of them with the cupro nickel bullets. There was practically no metal fouling and the rifle was just as easy to clean as my Springfield with Lubaloy bullets. With Cordite, a couple of shots usually deposited a beautiful layer of nickel fouling that took a lot of Motty's paste and elbow grease to remove."

The rifles which we have considered in this work have all been of English manufacture. We have had some experience with those of German manufacture and think that we are safe in saying that, as a general rule, they do not handle well the powerful ammunition used in the English rifles. They have little to recommend them over the English rifles save possibly the steel from which their barrels are made, almost invariably of the anti-corrosive type so popular with German manufacturers. It is an admitted fact now, however, that, if paid their price, German gunmakers are fully capable of turning out guns of a type equal if not superior in every way to any weapons in the world today. The trouble is that, being merchandisers, the Germans have turned out guns at a price, the price being stipulated by the demands of American dealers, with a long profit in mind, and they got just what they asked for from the "Heines," and have tried to sell it accordingly. We regard the double rifle not as a target weapon but for dangerous game, pure and simple. In the heavier calibers it becomes a matter of life insurance. It is true that we have little use, if any, for double rifles of over .375 bore in North America. But, given the choice of a .375 double Holland & Holland or a .375 Magnum-Mauser by either Holland & Holland or Hoffman, we should, for our own purpose, prefer the double.



Conducted by C. B. Lister

## Muncie, Indiana, Always Goes Over the Top

MUNCIE, Ind., has a record for doing things. It enlisted more men the first day than New York City; always exceeding its quota in liberty bond sales; oversubscribed its community chest fund; has contributed more to educational, charitable, and humanitarian causes than any town near its size in the State.

It faced the same obstacles that are usually encountered when it was decided that if its policemen were to carry revolvers that they should know how to use them. It was the same old story of no funds for ammunition—no particular interest in the shooting ability of its policemen.

The solution was worked out so satisfactorily and with so little effort that possibly the manner of handling it may be helpful to other towns in solving the problem. The mayor asked a N. R. A. member, who has had the benefit of the training given civilians at the National Matches, to coach the policemen. This was undertaken late in the fall.

First, the theories of good shooting were preached and practiced with dry guns. The training was not made compulsory. However, nearly every man on the force, including the chief, took it and attended practice on his own time, the night men attending in the afternoon, the day men in the evening. Each man really wanted to improve his marksmanship and did not complain of the tedium of the snapping practice.

Scores were recorded, and during February a meeting was called to which were invited the editors of the daily papers and the key-men of a few of the larger mercantile institutions. They were told what had been done, what should be done, and that sufficient funds should be included in the budget to provide for the expense of shooting practice, but that it would be impossible to get an appropriation unless the citizens were interested, and that the way to get them interested was to ask them to contribute without solicitation to a fund for the purchase of ammunition and prizes for a tournament in which the policemen would shoot as teams and as individuals to which the public would be invited.

It was pointed out that putting a uniform and shield on a man does not give him the ability to shoot. The fact that an officer is required to carry a revolver indicates that he is expected to be able to protect by force, if necessary, not only himself but the city he

serves, but that if unable to effectively use the weapon he carries, he is not only not armed but is a potential menace if the occasion arises for him to go into action. Attention was directed to the fact that any man who has the confidence that he is able to draw his gun quickly and hit what he shoots is less liable to start shooting on suspicion.

The good work the N. R. A. is doing in awakening cities to their duty in raising the efficiency of their police officers by training them to shoot was cited. The papers promised and did give splendid co-operation; the others at the meeting to a man pronounced it a good move and said "put us down for what is right." They were told there was no need of a big fund, and that it was not the amount donated but the number of people who would show sufficient interest to contribute voluntarily that would show the trend of public sentiment. Folders were mailed referring to the daily papers for details and asking those who wished to support the move to return the pledges. Within a few days nearly \$400 in money and more than \$165 worth of merchandise were collected. Although offered, no contribution larger than \$10 was accepted; didn't want it to be so big that there would be no necessity to put it in budget.

Much interest is being displayed by the attendance at the matches and the way the folks are watching and talking of the progress of the tournament proves the move has been a good one.

### COPY THIS PLAN FROM JUNCTION CITY

THE Junction City (Kansas) Rifle Club has recently adopted a plan which is going to be of the greatest value to the club from the standpoint of recruits and will also be of the greatest value to the municipality from the standpoint of its young folks. We quote from a letter just received from Mr. William B. Carr, secretary of the club:

"We have recently started something in the Junction City High School which will be of inestimable value in the future to our club, and, we think, to the shooting game all over the country. Through the principal, we are taking four boys and, we hope, four girls from each one of the classes. These four pupils will be turned over to one of our experienced riflemen and taught the use of the .22 caliber. The club will stand all expense for ammunition, etc., the boys having no expense

except their time. In this way, each year we will have a new class of four who will receive four years of instruction in shooting at no expense to themselves.

"We believe that in this way we will keep a continuous membership of young men and boys in the club, for of course after graduation the boys will be required to take out membership in the club in order to continue their shooting."

We recommend this plan to every affiliated club.

### MISSOURI "SHOWS" KANSAS IN A SHOULDER-TO-SHOULDER match

fired between the rifle teams of the University of Missouri and Kansas State Agricultural College, match fired at Manhattan, Kans., March 12, 1927, Missouri University won by 30 points.

#### MISSOURI UNIVERSITY

	Pr.	Sit.	Kn.	Std.	Tot.	Percent
Winston, W. C. ....	50	49	50	47	196	200
Beal, E. C. ....	50	50	49	47	196	200
Couchman, C. C. ....	50	50	49	43	192	200
Luther, C. A. ....	50	50	47	44	191	200
Rogers, K. A. ....	50	49	49	43	191	200
Wescott, C. M. ....	48	50	42	45	185	200
Edmonson, G. B. ....	46	47	48	41	182	200
Wescott, B. R. (Capt.)	49	50	43	37	179	200
Cruce, H. A. ....	50	47	41	37	175	200
Wright, R. T. ....	48	48	38	38	172	200
Totals ....	491	490	456	422	1,859	2,000

	Pr.	Sit.	Kn.	Std.	Tot.	Percent
Mayden, M. S. (Capt.)	50	48	49	48	195	200
Boger, G. ....	48	48	49	48	193	200
Crothusen, L. W. ....	49	47	48	47	191	200
Barber, C. M. ....	50	46	48	44	188	200
Flinner, A. O. ....	50	47	47	40	184	200
Davis, Rex. ....	38	46	45	42	181	200
Lesher, L. M. ....	49	49	42	41	181	200
Lacey, D. L. ....	45	47	44	40	176	200
Watson, Van. ....	48	49	43	34	174	200
Dayle, Thos. ....	48	44	43	32	167	200
Totals ....	485	471	458	415	1,829	2,000

Missouri won the prone position by 6 points, the sitting position by 19 points; lost the kneeling position by 2 points; won the standing position by 7 points. Scores certified correct by First Lieut. R. E. McGarraugh, Kansas Aggie coach, and Capt. J. J. Coghlan, Missouri coach.

### BEG YOUR PARDON

OFFICIAL Bulletin No. 9, dated January 11, covering results of the Individual Standing Match at 50 feet, and which ran in the February AMERICAN RIFLEMAN, gives the winning ammunition credit to Palma. The Federal Cartridge Company, at Minneapolis, informs us that Mr. Mike Altman, the winner, shot Federal cartridges instead of Palma.

### BUFFALO GUARDSMEN DEFEAT CANADIANS

ON THE night of April 2, at Buffalo, N. Y., the Company F rifle team of the 174th Infantry, N. Y. N. G., handed defeat to the Irish Rifle Club, Canadian champions, of Toronto, Ontario. The Infantry team may feel justly proud of having been the first to outshoot these fine Canadian riflemen, who, up until this last match, had won thirteen consecutive victories this season. Knowing the spirit of this Canadian team, however, it is a safe guess that their late defeat will only serve as an incentive to redoubled effort, with scores higher than ever. As we go to press, we learn that these two teams will compete again on Canadian soil on April 16.

### DETROIT HAS FIRST PISTOL CHAMPIONSHIP

UNDER the auspices of the Roosevelt Rifle and Revolver Club, of Detroit, that city witnessed its first Pistol and Revolver Championship Match. Capt. J. Lienhard, U. S. M. C., who is on duty at Detroit as recruiting officer, took the championship with a score of 246 x 300. Lienhard is an old-time National Match shooter. His performance, therefore, was more or less expected, and the real interest in the tournament centered around the performance of Gray Mitchell, of the Detroit police department, who finished with a total of 245 x 300, just one point behind the Marine shooting veteran. A glance at the scores below will show that Mitchell outshot Lienhard at both the rapid- and slow-fire stages, but Lienhard's remarkable 92 at the timed-fire stage pulled him out ahead.

Another policeman, James T. Parks, finished third.

The tournament brought out 67 contestants, which was a pleasant surprise to everybody concerned. The list included 38 civilians, 13 policemen, 5 National Guardsmen and 1 Marine.

The ten high scores follow:

	FR	TF	SF	Total
Capt. Lienhard, U. S. M. C. ....	73	92	81	246
Gray Mitchell, pol. ....	80	82	83	245
James T. Parks, pol. ....	85	78	73	236
M. W. Gates, civ. ....	72	79	84	235
Clyde Sayres, pol. ....	69	84	82	235
John D. Lowry, civ. ....	70	87	75	232
Walter Antosiewicz, pol. ....	72	83	76	231
Wm. C. Fearon, civ. ....	75	74	79	228
A. J. Kirchner, civ. ....	63	86	77	226
John T. Shaw, civ. ....	85	68	73	226

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### LYCOMING RIFLE LEAGUE FOR MALLY LAUNCHED AT DINNER

AFTER several preliminary meetings, the Lycoming (Pennsylvania) Rifle League was recently organized at a dinner attended by 125 men. The dinner was held in the dining-room of the Pine Street Methodist Church at Lycoming. The meal was served by the ladies of the church and was presided over by Capt. Thomas H. Lynn.

Mr. William H. Millener, secretary-manager of the Chamber of Commerce, gave the organization the unqualified approval of the chamber and spoke highly of the plans and organization represented by the league. At the present time the following firms are represented by teams: Lycoming Rubber Co., Lycoming Manufacturing Co., Lycoming Trust Co., Williamsport Wire Rope Co., Darling Valve and Manufacturing Co., City Hall employees, the J. K. Mosser Tannery Co., the C. A. Reed Co., the Bell Telephone Co., the Susquehanna Canoe Club, the Enterprise Auto Co., and the National Guard organizations.

It has been decided that the Winchester, Savage, Remington, Marlin, and Springfield rifles, caliber .22, may be used, all with iron sights. The rifle must not weigh more than nine and one-half pounds and must have a trigger-pull of not less than three pounds. The use of slings is optional. Rifles must be used as single loaders.

The match will be shot at 75 feet, at the N. R. A. target. Teams will consist of ten

men each and each man will shoot 10 shots standing and 10 shots prone, the five men having the highest aggregate scores to be counted for the team total.

The match shooting started on Monday, March 14.

The team winning the match, which will cover a period of probably twenty weeks, will be awarded a silver team trophy, and the five men making the highest aggregate on the winning team will be awarded medals.

A trophy, not yet decided upon but probably a medal, will be awarded the high-point man on each team.

The man who makes the highest individual aggregate score at the end of the season will be awarded a gold medal.

James Heller, of the city engineering department, explained the proposed changes in the range in the basement of the armory by which it will be expanded from a two-target range to an eight-target range.

It is proposed to secure an outdoor range during the coming outdoor season and start practicing with rifles of larger caliber.

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### FUTURE MATCH SCHEDULES

LIMA (OHIO) RIFLE AND REVOLVER CLUB—Indoor range, Main and Kirby Streets, 25 yards; outdoors, Lost Creek Country Club, 200 yards, small-bore only; both ranges available daily.

STATE MATCH AT CAMP LEWIS—May 28, 29, and 30. According to the constitution we have to have a team in this match to get the best medals; so figure on going. We want every one to go who can. If you don't make the team you can shoot as individuals, and we might have enough for two teams. Figure on going to this match.

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### Schedule of Matches, 1927—Illinois State Rifle Association and Chicago Rifle Association, Fort Sheridan, Ill.

April 17	I.S.R.A.	No. 1	Sporting Rife Offhand.
May 8	C.R.A.	No. 1	Short-Range.
May 15	I.S.R.A.	No. 2	200-Yard Any Rife.
May 22	C.R.A.	No. 3	Mid-Range.
June 5	I.S.R.A.	No. 3	Pistol Qualification.
June 11	I.S.R.A.	No. 4	R. O. T. C. Short-Range Team.
June 12	I.S.R.A.	No. 5	600-Yard, Any Rife.
June 19	C.R.A.	No. 3	Leech.
July 2-3			State Shoot and Team Selection.
		No. 6	Wrigley Trophy.
		No. 7	200-Yard Rapid-Fire.
		No. 8	300-Yard Rapid-Fire.
		No. 9	Leonard Trophy.
		No. 10	Felt Trophy.
		No. 11	Herald Trophy.
		No. 12	Tribune Trophy.
		No. 13	I. S. R. A. Grand Aggregate and State Championship.
July 4	I.S.R.A.	No. 14	Small-Bore Long-Range.
July 4	I.S.R.A.	No. 15	Long-Range Champ.
July 17	C.R.A.	No. 4	Offhand.
July 31	C.R.A.	No. 55	Qualification Course.
Aug. 14	I.S.R.A.	No. 16	Pistol Match, Individual and Team.
Aug. 14	I.S.R.A.	No. 17	Individual Dewar.

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### ARLINGTON, MASS., 1927 SCHEDULE

FOLLOWING is the 1927 schedule of the Arlington (Mass.) Club:

Sat., p. m., May 7	Open Handicap Shoot	P. Robertson.
Sat., p. m., May 14	Arlington vs. Wentworth Inst. Rifle Club	M. H. Chapin.
Sat., p. m., May 21	Arlington vs. Lincoln Spas. Assn., Eastern Mass. Rife League	A. F. Randall.
Wed., 4 p. m., May 25	Open Shoot, Club Members only	F. J. Morse.
Sat., p. m., June 4	Open Pistol Shoot	R. D. Robinson.
Sat., p. m., June 11	Arlington vs. Braintree, Eastern Mass. Rife League	A. F. Randall.
Wed., 4 p. m., June 15	Open Shoot	R. D. Keene.
Sat., p. m., June 25	Arlington vs. U. S. M. A. A., Eastern Mass. Rife League	A. F. Randall.

214

Sat., p. m., July 9	Open Handicap Shoot	C. Joseph.
Sat., p. m., July 16	Open Pistol Shoot	R. D. Robinson.
Wed., 4 p. m., July 20	Open Shoot	J. E. Berglund.
Sat., p. m., July 23	Cub Shoot for Club Members only, Govt. Record	Robertson, Colby, W. Joseph, Gurney.
Sat., p. m., July 30	Open Handicap Shoot	W. F. Gurney.
Sat., p. m., Aug. 6	Open Handicap Shoot	R. W. Percival.
Sat., p. m., Aug. 13	Open Handicap Shoot	R. D. Keene.
Wed., 4 p. m., Aug. 17	Open Shoot	P. Robertson.
Sat., p. m., Aug. 20	Open Handicap Shoot	A. F. Randall.
Sat., p. m., Aug. 27	Open Handicap Shoot	L. F. Dodge.
Sat., p. m., Sept. 10	Open Handicap Shoot	W. M. Joseph.
Wed., 4 p. m., Sept. 14	Open Pistol Shoot	R. D. Robinson.
Sat., p. m., Sept. 17	Open Handicap Shoot	R. A. Wilder.
Sat., p. m., Sept. 24	Club Shoot for members only, Govt. Record	Robertson, Colby, W. Joseph, Gurney.
Sat., p. m., Oct. 1	Open Handicap Shoot	W. P. Heirshon.
Sat., p. m., Oct. 8	Open Handicap Shoot	A. F. Randall.
Wed., a. m. and p. m., Oct. 12	Open Handicap Shoot	M. H. Chapin.
Sat., p. m., Oct. 22	Club Shoot for members only, Govt. Record	Robertson, Colby, W. Joseph, Gurney.
Sat., p. m., Oct. 29	Open Handicap Shoot	R. W. Percival.
Sat., p. m., Nov. 5	Open Handicap Shoot	R. D. Keene.
Sat., p. m., Nov. 12	Open Handicap Shoot	J. E. Berglund.
Sat., p. m., Nov. 19	Open Handicap Shoot	All Officers.

Prizes for all events. Number of shots and positions selected day of shoot. The above subject to change.

P. ROBERTSON, Pres.

GEORGE G. COLBY, Sec. and Treas., 57 High Street, Medford, Mass.

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### WASHINGTON SCHEDULE

FOLLOWING is the schedule of Washington State Rifle Association Postal Matches for 1927:

Match 3—April 30-May 1

2 sighting shots and 20 shots for record, slow fire, 500 yards, no sandbag, target "B".

2 sighting shots and 20 shots for record, slow fire, 600 yards, sandbag optional, target "B".

Match 4—May 14-15

2 sighting shots at each range and 10 shots for record, rapid fire, "D" target, 200-300-500 yards.

Match 5—May 21-22

First stage of qualification, no sighting shots, no sandbags.

10 shots standing, 200 yards, slow fire, target "A".

10 shots rapid fire, 200 yards, target "D".

10 shots slow fire, 300 yards, five sitting, five kneeling, target "A".

10 shots rapid fire, 300 yards, target "D".

May 28, 29, 30—State shoot at Camp Lewis and Annual Meeting and election of officers. Be sure to have your teams and delegates on the job.

Match 6—June 4-5

Second stage of qualification, no sighting shots except at 600 yards. Sandbag at 600 yards is optional.

10 shots 500 yards, slow fire, target "B", prone.

10 shots 500 yards, rapid fire, target "B", prone.

2 sighting shots and 10 shots for record, 600 yards, slow fire, prone, target "B".

**Match 7—June 18-19**

International 300-meter target, shot from 300 yards.

2 sighting shots and 10 shots for record, prone, no sandbag.

2 sighting shots and 10 shots for record, kneeling.

2 sighting shots and 10 shots for record, standing.

Any .30-caliber rifle, any metallic sights not containing glass, any ammunition, U. S. Army TR 150-10 to govern. International 300-meter targets will be furnished for Match No. 7.

Mimeograph forms will be furnished from this office on which to report your match firing. It is requested that the scores be forwarded not later than the day following the match. Your promptness in making your reports will govern the issuing of the regular bulletin of standing of clubs. Your hearty co-operation will make this the biggest year we have ever had.

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**OUTDOOR RANGE SCHEDULE OF THE SOLON SPRINGS (WIS.) RIFLE CLUB, SEASON 1927**

**M**EMBERS will shoot Qualification Course B during the season. Scores required are: Expert Rifleman, 220; Sharpshooter, 210; Marksman, 185.

May 8—Course B, 10 shots (5 kneeling and 5 sitting) at 300 yards. Ten shots prone at 500 yards; 20 shots slow fire; targets, A and B.

May 15—Course B. Ten shots standing, 200 yards, slow fire; 10 shots sitting, 20 yards, rapid fire; 10 shots prone, 300 yards, rapid fire; 30 shots; targets, A and D.

May 22—At Solon Springs—Team match. Solon Springs vs. Northwestern Gun Club. Ten shots, standing, 200 yards; 10 shots, sitting, 300 yards; 10 shots, prone, 500 yards; targets, A and B.

June 5—Practice. Two sighters and 10 shots prone, 600 yards; 10 shots prone, 500 yards, slow fire; 10 shots prone, 500 yards, rapid fire; target, B.

June 12—Course B, 50 shots for record. Same as May 8 and 15.

June 19—At Solon Springs—Team match. Solon Springs vs. Bennett Rifle Club. Conditions: Course C, 8-man teams, 50 shots per man, slow and rapid fire.

June 26—At Solon Springs—Team match. Solon Springs vs. Drummond Rifle Club. Conditions: Same as June 19.

July 10—300-Meter International Target Event. Ten shots standing, 10 shots kneeling, and 10 shots prone; 30 shots slow fire; 2 sighters.

July 17—At Solon Springs. Northern Wisconsin Civilian Clubs Individual Free Rifle Match, as follows:

Slow fire—10 shots, 200 yards, standing; 10 shots, 300 yards, kneeling and sitting; 2 sighters and 10 shots, 600 yards, prone.

Rapid fire—10 shots, 500 yards, prone; 10 shots, 300 yards, prone; 10 shots, 200 yards, sitting.

Targets for short and mid range, A and B.

First, second, and third prizes for each event; grand prize for highest aggregate score. Clubs entered in the match are: Eau Clare, Lady-smith, Poskin, Yellow River, of Danbury, Drummond, Bennett, Nemadji, of Superior, and Solon Springs.

July 24—300-Meter International Target Event. Conditions: Same as July 10.

August 7—At Drummond—Team match. Solon Springs vs. Drummond. Same as June 19.

August 14—Course B—50 shots for record. Same as June 12.

August 21—At Solon Springs—Team match. Solon Springs vs. Nemadji Club, of Superior. Same as June 19.

September 4—Course B—50 shots for record. Same as June 12.

September 18—At Bennett—Team match. Bennett vs. Solon Springs.

October 2—N. R. A. Club Champion Match—500 and 300 yards prone, 10 shots each, slow fire; 200 yards, sitting, 10 shots rapid fire; 30 shots; targets, A and B.

Rifle instruction given by Camp Perry, Ohio, Small-arms Firing School graduates, William Sjoberg and C. Lord.

Location of club range is five miles northeast of Solon Springs, Wis.; number of targets, 6.

Time of Shoots: 10:30 a. m. to 4 p. m. Range Reception Committee: Adolph Sjoberg, chairman; John Roll, Walter Posey. Range Schedule Committee: Adolph Sjoberg, president; Walter Posey, secretary; Nick Limpach, executive officer.

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**SOUTHWESTERN SMALL-BORE AND PISTOL CHAMPIONSHIPS AT DALLAS**

**U**NDER the leadership of Dr. C. E. Watson, president of the Trinity Rifle Club of Dallas, Tex., a program for the First Annual Southwestern Small-Bore and Pistol Championship Tournament has been drawn up. The Tournament will extend from Thursday, June 2, to Sunday, June 5, both dates inclusive. The match will include small-bore single and re-entry competitions at all ranges and pistol matches at 15, 25, and 50 yards. The matches will be open to all comers, with an entry fee of \$1 to members of the N. R. A. and affiliated clubs and \$1.50 to all others. Re-entries will be twenty-five cents and skids fees fifty cents.

The Camp Perry Special under Dewar conditions will be fired Friday, June 3, the first prize including expenses to the National Matches for competition in the Dewar tryouts.

The matches are sanctioned by the National Rifle Association, and N. R. A. gold, silver, and bronze medals will be awarded in the Southwestern Small-Bore Individual and Southwestern Small-Bore Team championships.

A copy of the official program may be obtained by addressing Mr. S. W. Godbold, secretary of the Trinity Rifle Club, 4004½ Swiss Avenue, Dallas, Tex. This is the first attempt at a match of this nature in the South-

west, and it is to be hoped that all shooters in that area will support the competition.

\* \* \*

**CELEBRATING AN ANNIVERSARY**

**T**HE Silver City Gun Club, of Meriden, Conn., is one of the huskiest infants on the N. R. A.'s cradle roll. The following letter from the secretary of the club shows one of the reasons why this outfit is rapidly forging to the front:

"I am writing to inform you of the stunt we pulled off to celebrate the first anniversary of our club.

"We have been trying to stir up more interest in pistol shooting, but without much success, so after some correspondence with the Colt Company we were finally advised they would have Mr. J. H. Fitzgerald give an exhibition of pistol shooting here.

"Mr. Fitzgerald visited us Friday evening, March 4, and we set the date of the exhibition for Wednesday, March 16, 1927. While he was here we brought him to the police station to visit with Captain Bartram, who is a member of our club and instructor of pistol shooting for the Meriden police. As a result of this visit, Mr. Fitzgerald was present Friday afternoon, March 11, when the Meriden police had their monthly practice and gave them some valuable instruction.

"I wrote letters to all the clubs in the Nutmeg League, also to Wallingford, Farmington, and Hartford, inviting them to attend this affair. I also wrote personal letters to the cashiers of the six banks here, and to the postmaster and express agent, suggesting they attend. We had 300 postal cards printed; sent 150 to club members and mailed the remainder to clubs, lodges, American Legion, and any one else that we thought might be interested. In addition, I wrote a number of articles for the two daily papers here, and each article was printed just as I handed it in.

"In the meantime I wrote Mr. Burns, of the Remington Company, inventor of the Kleanbore cartridge, and he agreed to come and give a short talk on the new cartridge.

"So much for the publicity. On Wednesday morning, Mr. Huneven and I went to the Armory, filled a box 3 feet square and 20 inches deep with sand for a backstop, and placed 210 chairs in position for the prospective audience.

"Through the courtesy of Major Butler, we secured the use of the main floor of the Armory for this exhibition. Now for the results:

"At 8:15 p. m., when our president, Forrest Scott, introduced Mr. Burns, every one of the 210 seats were occupied. At 8:45 p. m., we counted in addition 41 persons standing, making a total attendance of 251 persons. We thought this was pretty good, as it is rather difficult to get people interested in a shooting event. Even though we did not charge for admission, we had a splendid and very interested audience. There were 24 ladies present also.

"As a result, the Colt and Remington companies received a lot of free advertising, the

audience an entertaining and instructive evening's entertainment, and the club added to its reputation also getting a couple of new members and old members paying up dues for this year. The executive committee feels it was a success. We feel sure we shall soon have an active pistol team.

"There were present members of the rifle clubs in Wallingford, New Britain, Cromwell, Hartford, Middlefield, and Farmington. The Meriden police, express messengers, and bank clerks were well represented. The police commissioners were there, and the chief of police from Wallingford, 6 miles from here, was also there. Dr. Lawton, with four friends, came all the way from New London to be present.

"We are to build a new clubhouse on our range this spring, expecting to start operations in about three weeks, weather permitting.

"Yours truly,

"E. E. COOKE, Secretary."

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#### TOURNAMENT OF THE CENTRAL SHARPSHOOTERS' UNION IN DAVENPORT, IOWA

By EMIL BERG

THE committee in charge of the management of this year's biennial Rifle Tournament held its meeting last month to outline the details of this event.

The secretary deemed it interesting to the members of the Union, as well as the riflemen in general, to enumerate a few of the higher prizes that will be offered on the various targets. The Honor Target, on which each shooter has but 3 shots during the tournament, will have over \$1,000 in cash prizes, the first 15 ranging as follows: \$100, \$75, \$65, \$60, \$55, \$50, \$45, \$40, \$35, \$30, \$25, \$25, \$25, \$20, \$20, etc. Every shooter on this target will be a prize winner, no matter how low his score.

The Center Target will have 40 prizes, the first ten being arranged as follows: \$35, \$25, \$20, \$15, \$10, \$10, \$9, \$9, \$8, \$8, etc. On this target each shooter has but 3 shots. The best shot of his 3 shots will count only. The disk in the 12-inch black is 9 inches, and this must be hit to win. The Union has the use of a very elaborate measuring machine, which is used to measure the shots to the 1/100 inch.

*The Medal Target.*—This is the target formerly called the King Target, each shooter making 10 shots, and the highest score will entitle the winner to be the king of the tournament. The first prize consists of a fine gold medal, suitably inscribed, and a cash prize of \$15 additional. The prize list will run about the same as the Center Target list and will aggregate the same.

These three targets have only one entry each and are what is called the set of Union targets. The members of the clubs constituting the Central Sharpshooters' Union are privileged to shoot on these three targets, and also such other riflemen who are not members of clubs belonging to the Union, who will be required to contribute a fee of \$10 for their membership. The prizes on the three Union

targets will amount to between \$1,500 and \$2,000, which are guaranteed.

There will be three targets for re-entry shooting as follows: Davenport, People's, and Mann. The Davenport target requires but 1 shot on a score. The rings are very close, only 3/16 inch apart, and all of the 25 rings are contained in the 12-inch black. The first fifteen prizes will be as follows: \$50, \$40, \$30, \$25, \$20, \$15, \$12, \$10, \$10, \$9, \$9, \$9, \$9, \$8, \$8, \$8, and so on; total, \$435.

The People's Target, three shots on a score, has a prize list of \$685. The first fifteen prizes will run as follows: \$75, \$65, \$55, \$45, \$35, \$30, \$25, \$23, \$20, \$20, \$18, \$17, \$15, \$14, \$13, \$13, and so on. There is a standing prize of \$100, donated by T. M. Barcus, of St. Louis, to go to the winner of the first prize in 3 shots of this Union.

The Mann Target, 3 shots to a score, has a prize list similar to the People's Target and also aggregates \$685.

On the above three re-entry targets there will be a special prize of \$25 for the individual who makes the highest aggregate on three cards and another of \$10 for the best two cards.

For those who want to sight their rifles for this 200-yard range and those who want to practice, ample targets will be available.

This is the seventeenth biennial tournament held by this Union, and as there are no other organizations of this character in the United States, it was decided to invite all the riflemen, who want to enter the classiest of all rifle competitions, to come to Davenport and enjoy this royal sport. Those who are not familiar with these Schuetzen tournaments will now be given an opportunity to see for themselves how the Schuetzen men perform, and why they become such very enthusiastic lovers of this style of shooting.

Owing to the fact that the Davenport range is within 15 minutes' street-car ride of the heart of the city, and in one of the finest wooded parks, the Forest Park Range has been used since 1865. The range is situated on a high and breezy elevation, and shooting to the north, which makes the lighting ideal. Our only regret is that we dare not allow the shooting of high-speed ammunition, as there may be trouble, owing to the artificial backstops, which can not always be depended upon to catch and hold all the high-velocity bullets shot in this direction. So we have to bar all rifles shooting in excess of 1,000- to 1,200-foot velocity, and metal-jacketed bullets.

This is the tentative shooting plan which will be proposed at the next meeting of the Davenport Shooting Association, who are the owners of the park and who are the responsible parties guaranteeing the faithful execution of the program, which will be ready in a month.

We hope that we may awaken a lively interest in the hearts of the true offhand riflemen of the nation and that our efforts will be crowned with a fine attendance of the cream of riflemen on the days of September 3, 4, and 5 of this year.

Any one who desires information on any

detail of this tournament may correspond with the secretary, Emil Berg, 1801 Pershing Avenue, Davenport, Iowa, and your inquiries will get prompt attention.

Be sure to keep up your subscription to the only rifleman's information source, *THE AMERICAN RIFLEMAN*, who are the official publishers of all the news, programs, and price lists of the Central Sharpshooters' Union.

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#### ACTIVITY AT JACKSONVILLE

THE first Graham Cup Matches for the 50-foot Team Championship of the Duval County Armory were fired on the gallery of that building at Jacksonville, Fla., Friday, March 18, 1927. The Graham Cup is a perpetual challenge cup and can only be held sixty days by any team before it is subject to challenge and must be defended or surrendered. On the above date the following scores were made:

*Company F, Florida National Guard.*—Prone, 125 x 125; sitting, 122 x 125; kneeling, 116 x 125; standing, 113 x 125. Total, 476 x 500.

*Jacksonville Rifle Club.*—Prone, 125 x 125; sitting, 124 x 125; kneeling, 115 x 125; standing, 110 x 125. Total, 474 x 500.

*Palmetto Rifle Club.*—Prone, 119 x 125; sitting, 121 x 125; kneeling, 118 x 125; standing, 113 x 125. Total, 471 x 500.

*Howitzer Company, Florida National Guard.*—Prone, 119 x 125; sitting, 116 x 125; kneeling, 112 x 125; standing, 106 x 125. Total, 453 x 500.

All were five-man teams, and four positions of five shots each were fired.

A mixed distance match for the Garcia Cup at 50 and 75 feet was fired, scheduled for Wednesday, March 30, 1927.

\* \* \*

#### LYCOMING LEAGUE GETS UNDER WAY

THE newly organized Lycoming (Pennsylvania) Rifle League has gotten under way with its schedule of inter-club matches. Twenty-two of the twenty-four teams composing the League competed during the first week. The Bell Telephone Team got away in front with a five-man team score of 456, five points ahead of the local National Guard Company. The standing of the teams at the end of the first week is as follows:

	Score
Bell Telephone	456
National Guard	451
Lycoming Mfg. (Oliver St.)	446
City Hall	439
Lycoming Rubber (Rainsters)	412
Darling Valve & Mfg. Co.	407
Lycoming Rubber (Keds)	401
Susquehanna Canoe	379
Williamsport Wire Rope	379
E. Keefer Co.	368
J. K. Mosser Co.	368
Sweets Steel Co.	360
Pennsylvania Railroad Co.	358
Williamsport Furniture Co.	351
C. A. Reed Co.	334
Enterprise Auto Co.	331
Lycoming Trust Co.	320
Lycoming Mfg. Co. (Foundry)	318
Hunt Milk Products	315
Fisher Lumber Co.	308
W. U. Mussina Co.	301
Bush & Bull Co.	209

## ASHLAND WINS IN OHIO

After making a 75-mile drive over a roundabout way to avoid the impassable roads, the Ashland team went over the top against picked riflemen from Toledo, Mansfield, and New Washington in the tournament which was shot off at New Washington, Ohio, on March 20.

Teams from Lima, Bluffton, Crestline, Shelby, and Galion were either absent or incomplete.

The match was close enough to keep every one on his toes clear to the finish. The Ashland team was in danger nearly to the finish, but when Hassinger came in with a score of 196, which was the highest score made, their lead was increased to the point where Coleman's 189 clinched the match for Ashland.

New Washington and Toledo fought it out clear to the finish and finished with only two points separating the two teams, Toledo leading by two points. Mansfield placed fourth with 11 points below New Washington.

Scores are given below for only the first five of the complete teams:

## ASHLAND

Team	Standing	Kneeling	Sitting	Prone	Total
Hassinger	48	48	50	50	196
Good	45	45	50	49	190
Coleman	42	47	50	50	189
Daum	43	47	48	50	188
Barnhart	42	48	46	50	186
Team total					949

## TOLEDO

Team	Standing	Kneeling	Sitting	Prone	Total
Peterman	47	46	48	49	190
C. A. Dorety	45	46	49	49	189
Klinkle	44	45	49	50	188
Crouthers	45	45	48	49	187
Taylor	40	40	43	49	176
Team total					937

## NEW WASHINGTON

Team	Standing	Kneeling	Sitting	Prone	Total
H. Nye	46	47	47	49	189
Knodel	45	47	45	50	187
Willford	45	46	46	50	187
Pessell	47	45	45	49	186
C. Nye	44	44	49	49	186
Team total					935

## MANSFIELD

Team	Standing	Kneeling	Sitting	Prone	Total
Arnold	48	49	47	50	194
Wagner	43	46	49	49	187
Fike	38	46	48	50	182
E. S. Barr	40	44	47	50	181
L. S. Barr	40	48	43	49	180
Team total					924

\* \* \*

## ADDITIONAL CONTRIBUTORS TO INTERNATIONAL TEAM FUND

Myers Wolf, Manheim, Pa.	\$1.00
C. T. Westergaard, Whiting, Iowa	1.00
J. L. Dillard, Great Falls, Mont.	1.00
Frank S. Trabucco, San Francisco, Calif.	1.00
Ed. Shell, Bemidji, Minn.	2.00
J. E. Woyes, El Toro, Calif.	1.00
P. H. Wickers, Russell, Kans.	3.00
U. F. Masson, Hillsdale, Pa.	1.00
Frank W. Thurston, Toledo, Ohio	1.00
Ernest L. Latham, Boston, Mass.	1.00
Harry A. Phillips, Salt Lake City, Utah	1.00
E. F. Warren, Denver, Colo.	1.00
Chas. M. Carlson, West Hartford, Conn.	1.00
Clifford C. Curnalis, Roscommon, Mich.	1.00
John Grieshammer, Epoufette, Mich.	1.00
M. L. Brown, Hillsdale, Mich.	1.00
Harry G. Clark, Pittsburgh, Pa.	1.00
Joseph Curtis Hise, Horner, Ill.	2.00
C. A. Scott, Sycamore, Calif.	1.00
John A. Abbehl, Elkhart, Ind.	1.00
Milton Daly, Ketchikan, Alaska	1.00
World War Veteran, State Hospital, N. Y.	1.00
Harry Martin, New York City	1.00
Blain Gamble, Diamondville, Wyo.	2.00
James M. Thompson, Richmond, Calif.	1.00
W. H. Estabrook, Monterey, Calif.	1.00
Clifford Smith, Tait, Calif.	1.00

## Charles S. Groondyke

CHARLES S. GROONDYKE, Assistant Ballistic Engineer in the Smokeless Powder Department of E. I. du Pont de Nemours & Co., died at his home in Wilmington, Del., on Monday, March 14. He had been en-



gaged in the smokeless-powder industry for twenty years and had a wide circle of acquaintances, not only in the trade but also among riflemen who have taken part in various matches throughout the country. He was one of the familiar figures at rifle matches, and, by his courtesy, good fellowship, and fine character, endeared himself to the large body of men with whom he came in contact. The news of his death came as a shock to his many friends throughout the country.

His professional career was an interesting one. He was born at Port Morris, N. Y., forty-one years ago, and as a young man received his early training with Hudson Maxim, the celebrated inventor and chemist. He afterwards entered the employ of the du Pont Company at the Forcite plant at Lake Hopatcong, N. J., which has since been taken over by the Atlas Powder Co. In 1906 he was transferred to the Brandywine laboratory of the du Pont Company, where he won successive promotions until he became assistant ballistic engineer. He is survived by his wife, Mrs. Mary Groondyke, and his mother, Mrs. Fred Slaight.

F. T. Lauffer, Napa, Calif.	1.00
Chester C. Williams, Lewistown, Mo.	1.00
John Minar, St. Paul, Minn.	1.00
D. W. Shrank, Niagara Falls, N. Y.	2.00
Cyril J. Fraser, San Francisco, Calif.	1.00
John L. Ware, St. Louis, Mo.	2.00
Perry A. Wiedmaier, Dunkirk, N. Y.	5.00
J. L. Kohler, New Holland, Pa.	2.00
D. S. Warrell, Alhambra, Calif.	2.00
James E. Satava, Cleveland, Ohio	2.00
Mr. Cook, Mr. Morse, Pasadena, Calif.	2.00
Chas. Heue, Cavite, P. I.	5.00
E. A. Waugaman, Avalon, Pa.	2.00
John H. Wright, Kansas	1.00
Emi Swatos, Omaha, Nebr.	1.00
T. McDaniel, Fairmont, W. Va.	1.00
Dr. D. C. Otto, Fraze, Minn.	1.00
R. F. Mason, Chicago, Ill.	1.00
O. E. Tharp, Quivault, Wash.	1.00

W. MacPherson, Boston, Mass.	2.00
John Outcalt, Merced, Calif.	1.00
Norman Clyde, Independence, Calif.	2.00
Wm. L. Bruce, Cheyenne, Wyo.	1.00
J. C. Ogan, Wilson Creek, Wash.	1.00
H. R. Pierce, Fort DeRussy, T. H.	1.00
A. V. Lukes, Berkeley, Calif.	1.00
Thomas Forsyth	1.00
M. J. Eder, Stanley, N. D.	1.00
Fred H. Felstone, Detroit, Mich.	1.00
G. W. Thompson, Harrisburg, Pa.	1.00
John W. Gets, Loudonville, Ohio	1.00
A. T. Hilder, Starkweather, N. D.	1.00
John A. Riley, Canton, Ohio	1.00
Elwood J. Fetzer, Bethlehem, Pa.	1.00
Maurice E. Kaiser, Sacramento, Calif.	2.00
Lieut. P. M. Martin, Fort Riley, Kans.	1.00
Walter W. Long, Hamilton, Ohio	2.00
A. J. Williamson, Hilo, Hawaii	2.00
J. H. Basham, Rockwall, Tex.	1.00
Edward L. Crabb, Shoshoni, Wyo.	5.00
Dale Girley, Roseburg, Ore.	5.00
John B. Semple, Semickley, Pa.	1.00
Thos. H. Smith, Denver, Colo.	10.00
Henry C. Felton, Akron, Ohio	1.00
George C. Shaw, A. and N. Club, Wash., D. C.	2.00
Lawrence W. Wright, New York City	2.00
Percy J. Bowker, Wentworth Junction, N. H.	2.00
Geo. E. Knowlton, East Otto, N. Y.	1.00
J. T. Spofford, Malden, Mass.	1.00
Charles J. Lindahl, Du Bois, Pa.	1.00
W. W. Miller, Shillington, Pa.	2.00
J. W. Arey, New York	1.00
Harry L. Winrick, Pittsburgh, Pa.	1.00
Cornell University	4.12
John Carlson, Two Harbors, Minn.	3.00
C. E. Bradshaw, Charlotte, N. C.	1.00
F. Goethius, Medical Lake, Wash.	1.00
V. A. Schilling, State Line, Mass.	2.00
L. I. Naugh, Crammer, Pa.	1.50
John J. Berish, Binghamton, N. Y.	1.00
H. G. Mauk, Woodlawn, Pa.	1.00
F. W. Kachelries, Shamokin, Pa.	2.00
C. H. Jurgens, Oakland, Calif.	3.00
E. B. Conklin, Solvay, N. Y.	2.00
S. W. White, Strasburg, N. Y.	1.00
Howard A. Scholle, New York City	1.00
Arthur K. Woodman, Palm Beach, Fla.	1.50
Charles Haberle, Fort Monmouth, N. J.	1.00
Col. C. E. Stodder, Quarry Heights, C. Z.	5.00

## AVOIDING STUCK CLEANING PATCHES

By PHILIP B. SHARPE

THE average rifleman has experienced a countless number of stuck cleaning patches in his day—or he has had little experience! Here's a tip which may be useful to shooters.

If, when cleaning a barrel, the rifleman experiences punctured patches, he often finds it quite difficult to remove them without con-

siderable labor. Due to the construction of the patch tip on the Belding & Mull rod, this seldom occurs, as the tip grips the patch perfectly. But many other steel rods on the market, which are doing their duty well, can be made to remove stuck patches which have become punctured in pushing through the bore.

Due to the wedge-action of the tapered, relief back of the tip or jag, an ordinary punctured patch becomes wedged more and more solidly as pressure is placed on the rod handle. The writer has found it necessary to hammer out rods, only to find that the patch remains where it became stuck.

My friend and fellow gun-crank, Mr. E. C. Dyer, started experimenting on this subject, with the result that a very simple and efficient method of preventing this trouble was devised.

The drawing herewith illustrates this very clearly. If a lathe is not available for turning out this shallow groove, a file may be used very effectively. As a matter of fact, our experiments were conducted with filed rods. The groove should be from one inch to one and one-fourth inches long, and a six-

teen of an inch is deep enough. When a rod slips through a patch, it drops into the groove, which holds it for pushing through or pulling out. It is true that it does not go through as easily as an unperforated patch, but the fact is that it DOES go through, even though one has to resort to light hammer blows on the handle.

### OHIO RIFLE MATCH

(Continued from page 15)

35 T.S.Honaker	662	49 E.N.Littleton	646
36 L.Gillispie	662	50 J.Harnish	645
37 R.G.Patterson	660	51 J.H.Baldinger	624
38 A.J.Fritz	660	52 E.Q.Starr	616
39 G.S.Mundy	660	53 H.H.Reikel	
40 F.E.Riley	659	man	613
41 W.F.Foley	659	54 J.C.Denham	605
42 A.B.Eisenbray	659	55 W.R.O'Neil	596
43 R.B.O'Neil	659	56 C.E.White	583
44 F.H.Micklau	658	57 R.M.Bellows	581
45 T.Folger	658	58 J.Snyder,Jr.	574
46 C.S.Mundy	654	59 Dr.M.D.Miller	503
47 C.V.Zuspan	653		
48 S.H.McGuin-			
ness	646		
60 R.E.Rainsberger	155	—Not finished	
61 Dr.M.E.McManes		—Did not shoot	

### TEAM MATCH—5-MAN TEAMS

Place	Name	Score	Place	Name	Score
1	Columbus Busi-	1918	4	Richwood	1837
	ness Men		5	Kings Mills	1830
2	Dayton	1899	6	Columbus (Pa.)	1890
3	Miami (Cincin'ti)	1888		R.R.)	

### OHIO BESTS CANADA

The following represented Ohio in the International match between Ohio and Ontario, Canada, which Ohio won:

Name	Score	C.Nikodyn	196
H.H.Jacobs	200	C.A.Dority	198
S.H.McGuinness	196	W.V.Mounts	198
R.O.Eisenlohr	199	H.B.Clark	194
A.E.Hart	199	J.C.Beedle	198
R.B.O'Neil	198	W.L.Rostron	196
M.L.Ainsworth	196	A.J.Yearley	198
C.P.Beall	196	M.L.Bonta	194
F.Hortsman	195	C.S.Mundy	195
F.H.Nicklaus	195	J.J.Noonan	194
F.D.Wilson	199		
Total Score	3934 to 3908	made by Canada.	

### LADIES' MATCH

Place	Name	Score	Place	Name	Score
1	Marg'te Lintner	190	6	Mrs. Ruth E. Davis	96
2	Thelma Bennett	99	7	HeLEN Lightburn	96
3	Violet Stockham	98	8	Beatrice Bardon	93
4	Dorothy Lintner	97	9	Mrs. S. M. Davis	93
5	Mrs. Maud Brahm	96	10	Mary Rosstade	82

### PISTOL MATCH—TEN SHOTS, SLOW FIRE

Place	Name	Score	Place	Name	Score
1	R.C.Bracken	88	7	J.Harnish	78
2	R.D.Barden	87	8	C.S.Mundy	72
3	Ben Riley	87	9	Marg'te Lintner	71
4	R.S.Marshall	86	10	G.S.Mundy	71
5	Allen West	82	11	L.D.Kimmel	66
6	C.A.Dority	80	12	J.C.Burton	59

### JUNIORS' MATCH

Place	Name	Score	Place	Name	Score
1	Thelma Bennett	95	7	H.Cook	81
2	R.Berner	92	8	A.Briggs	75
3	H.Martin,Jr.	89	9	J.R.Steiert	73
4	L.Talbot	89	10	R.P.Smith,Jr.	73
5	T.Sawyer	83	11	D.Kingery	56
6	S.H.Richards	82			

\* \* \*

### NORWICH WINS FIRST NEW ENGLAND INTERCOLLEGIATE

THE first Shoulder-to-Shoulder Match to be sponsored by the National Rifle Association for New England colleges was fired on the Commonwealth Armory range at Boston on Saturday, April 9. There had been some difficulty in locating a range in Boston suitable for the Intercollegiate 50-foot distance, but, with the co-operation of Col. C. C. Stanchfield, State Ordnance Officer for Massachusetts, and the Adjutant General of the State, arrangements were made for the use of the

splendid facilities at the Commonwealth Armory.

The delay in making final arrangements reduced the number of competing teams, but in no sense reduced the interest in the match among the New England institutions.

The course was the regular Intercollegiate, calling for ten shots prone, kneeling, and standing, teams of five, all scores to count.

M. I. T. and Boston University got away in front in the prone position, with team totals of 496, ten points ahead of Norwich and eleven points ahead of the Connecticut Aggies. In the kneeling position, Boston University ran into difficulties, dropping to 430. Norwich topped the list with 449, picking up the six-point lead which had been held by M. I. T. when the latter school turned in 443. In the standing position Norwich continued its consistent shooting, turning in a team total of 400 against 384 for M. I. T.

Robert M. Harbeck, captain of the Tech Team, was high individual, with a total of 283 x 300. Harbeck turned in a possible prone, 91 kneeling and 92 offhand. Granville B. Ellis, of Norwich, winner of the N. R. A. Individual Intercollegiate Postal Championship, was runner-up with a 282. Ellis turned in the remarkable score of 98 kneeling, but failed to come up to his usual performance in the offhand position.

The scores:

Team	Prone	Kneeling	Standing
Norwich	490	449	400
M. I. T.	496	443	384
Boston	496	430	331
Conn. Aggies	489	428	338

Immediately following the match, plans were laid for a second Annual Intercollegiate Match to be fired on the second Saturday prior to the Easter holidays of 1928. Colonel Stanchfield will be requested by the N. R. A. to again make the Commonwealth Armory range available, and with twenty targets available and ample notice to the New England colleges, where rifle shooting is a recognized intercollegiate sport, it is anticipated that the 1928 New England Intercollegiate will take its place as one of the most important intercollegiate matches in the country.

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### A GOOD RUSSIAN SPORTER

By R. S. CROZIER

LAST fall I received a 7.62 Russian Rifle, re-stocked and somewhat altered in appearance from what we had seen before. The stock had Jostam recoil pad; and the pistol grip and comb were both near enough to the trigger and action to give that snug, secure hold that we read about.

The wood in the stock was coarse-grained, with dark spots and a greenish tint, the like of which none of us had ever seen before in a stock. It had a fine, smooth, piano-like polish, the kind we used to see on the old Pullman sleeper bunks back in the '90's. The forearm was full semi-beaver-tail, big enough to protect the fingers from the heat that a rapid-fire string in any modern military rifle will generate. The grip and forearm were checked, and the bolt handle was turned

down and lengthened, similar to that on an English Mannlicher.

The barrel was cut off to 26 inches in length, and had a long ramp front sight; and the rifle looked so different from what we used to see in the various attempted alterations of the "Russian Peasant Rifles" that we were naturally curious to find out how it shot; and, as it was made by Remington, we were reasonably sure of an accurate barrel. Furthermore, I felt sure that the gunsmith who had taken so much pains to transform it into a splendid-looking Sporter would not have done so unless satisfied that it was accurate.

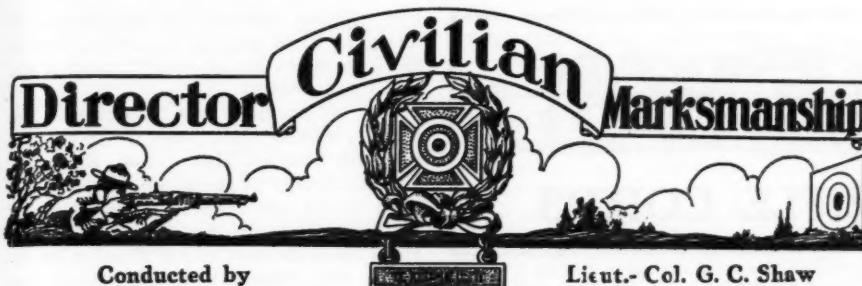
My brother, Howard, and myself being reloading bugs of the old Schuetzen game, went out to my range on Lagoon Island in Wappingers Lake to put it through the third degree. Some forty-odd years in the shooting game has resulted in both of us having certain "pet" loads, which we proceeded to try out, both in Howard's Russian and my Sporter. After some experimenting, we got three  $\frac{3}{8}$ -inch groups at 50 yards, using 17 grains of du Pont No. 80 powder behind the 170-grain, 6-degree, boat-tail government .30-06 gilding-metal bullet. Not so bad for a rifle that our best authorities seem to consider too cheap to even try out, but which is a blessing to many who love to shoot but can't afford to own the high-priced rifles that most of us can only dream about.

After being satisfied that the rifle held its own with any Sporter at 50 yards, we decided to try out some of the new Remington 110-grain high-speed bullets made for the .30-06. We got 4-inch groups at 200 yards, using 20 grains of du Pont No. 80 behind the 110-grain bullet.

This is getting close to the best results obtained with Springfield with that bullet, and is not to be sneezed at, as any one can soon find out by trying to duplicate it with any sporting rifle, including our fine Springfields, as many can testify to. It convinces me more than ever that a military rifle barrel and action fitted in a Sporter stock does not lose any of its accuracy; in fact, quite often we believe the accuracy to be improved, due to the careful fitting of action and barrel. The final fitting by this stocker is done by scraping, similar to fitting an automobile crank-shaft bearing in a good car. The recoil is well taken care of in the Russian by the recoil bolt, a feature that he has adopted for Springfield and other sporter stocks where the recoil is severe enough to shear the recoil shoulder as usually fitted.

The heads of the recoil bolt in this particular rifle are covered with an inlaid diamond. In a .30-06 Sporter stock and a model 10 E. Ross stock, which I later had him make, he completely camouflaged the inlay by letting it follow the lines of checking on the forearm. I believe this recoil bolt to be an excellent feature, well worth copying, as it absolutely does away with the trouble of shearing and splitting the recoil shoulder, which happens quite often even in the best makes. There is no patent on it; it is used and has been used on the .7-62 for many

(Continued on page 33)



Conducted by

Lieut.- Col. G. C. Shaw

## ADVANCE INFORMATION—NATIONAL MATCHES, 1927

## TENTATIVE DATES

Small-Arms Firing School Aug. 22-Sept. 3  
 N. R. A. Matches Sept. 1-11  
 National Matches Sept. 12-17

## CIVILIAN TEAMS AT NATIONAL MATCHES, 1927

Each State and the District of Columbia, through the Adjutant General of the State, has been invited to send a civilian rifle team. Teams to be from 10 to 13 members; if 13, to be 1 team captain, 10 principals, 2 alternates. Teams to be selected by competition. Members of National Guard and Organized Reserves not eligible as principals or alternates. Authorized members of teams within the limits for members given above to be reimbursed for expenses as follows:

For travel expenses from their residence within their respective States to Camp Perry, Ohio, and return, at rate of 5 cents per mile each way. Allowance for return travel will be paid at Camp Perry in advance of return travel. Commutation of subsistence at the rate of \$1.20 per day for time actually spent at Camp Perry within period August 28 to September 18 (22 days).

The team captain and team membership should be announced by orders from the proper State authorities. The team captain should be, if possible, a man with previous National Match experience. Team captains should be furnished with copies of orders announcing membership of teams, for the use of the Finance Officer at Camp Perry. Regulations for competitions for the selection of teams to be as prescribed by the proper State authorities.

## CHANGES IN RULES AND REGULATIONS FOR THE 1927 MATCHES

The following important changes have been made in the 1925 rules:

The National Rifle Team Match and the National Individual Rifle Match—Rapid Fire—Third Stage. Change from 400 yards, Target "B" to 300 yards, Target "A". Time limit, 1 minute, 10 seconds. Ten shots, prone from standing.

## PRIZES

## National Individual Rifle Match

Strike out paragraph 34, bulletin 7, 1925 (Rules for 1925 Matches), and insert the following:

34. *Prizes*—(a) To each of the 15 competitors making the highest aggregate score, a gold badge.  
 (b) To each of the 25 competitors making the next highest aggregate score, a silver badge.  
 (c) To each of the 100 competitors making the next highest aggregate score, a bronze badge.

*National Individual Pistol Match*  
 Strike out paragraph 37 (Prizes, 1925 Rules) and insert the following:

37. *Prizes*—(a) To each of the 12 competitors making the highest aggregate score, a gold badge.  
 (b) To each of the 24 competitors making the next highest aggregate, a silver badge.  
 (c) To each of the 36 competitors making the next highest aggregate score, a bronze badge.

## CITIZENS' MILITARY CHAMPIONSHIP MATCH

A new National Match has been instituted to be shot in conjunction with National Individual Rifle Match, known as "The Citizens' Military Championship Match." Open to all citizens of the United States except members of the regular services. Rules, etc., same as National Individual Rifle Match, except as to competitors. Scores made in the National Individual Rifle Match to be counted in this match.

*Prizes*.—To the 10 highest competitors, gold medals; to the next 15 highest competitors, silver medals.

There are a few minor changes in the rules which do not affect organization of teams. A bulletin of the rules and regulations will be published shortly and will be distributed to all interested persons.

\* \* \*

## SIGN MEMBERSHIP CARDS

Some members of the N. R. A. who desire to make purchases through this office fail to sign their membership cards on the back. On the face of each card is printed a warning that they are not valid unless signed on the back. When cards are received not signed it makes it necessary to send them back. This causes some delay in the arrival of your order, which could easily be avoided by reading the face of the membership card, and then signing it on the back.

BALL CARTRIDGES, CALIBER .45,  
MODEL 1909

There still remains a small supply of ball cartridges, caliber .45, Model 1909, for use in the Model 1909 revolver. This ammunition is not suitable for use in the Model 1911 automatic pistol or the Model 1917 revolvers sold through this office. Cases of 2,000 rounds, \$20 per case. Sold "as is" and in case lots only.

\* \* \*

## A WAY TO GET TO CAMP PERRY

ANOTHER opportunity to get to Camp Perry, Ohio, and attend the National Matches and the School of Instruction is open to all of the younger members of the civilian rifle clubs. Of course this opportunity is open to all young men, but the younger rifle club members should give it a bit of consideration. Due to their familiarity with rifle shooting they will have an especially good chance to make this opportunity theirs.

Every one has heard of the citizens' military training camps. But every one has not heard that each Corps Area commander is authorized to send a team composed of candidates from the camps in his corps area. These teams are selected from those candidates who show by their shooting ability, their soldierly conduct, and their general all-around interest that they will benefit by being sent to Camp Perry. The expenses to and from Camp Perry and commutation of subsistence are paid these team members so that the trip and the experience may be had without cost.

On arrival at Camp Perry each team is assigned one or more competent instructors, and also each team attends the Small-Arms Firing School. In this way they are taught to shoot well enough to successfully engage in the Matches. Rifles, ammunition, and all necessary equipment are furnished every one. Many of the prizes and medals are taken each year by both individuals and teams sent to the matches from the various corps areas. Some of the very best of the younger shots in the country have been developed through attendance at the matches as members of C. M. T. C. teams.

If interested, you should apply to the officer in charge of C. M. T. C. affairs in your corps area, who will advise you concerning attendance at the summer camps. When you get to the camp, you will then be given an opportunity to try out for the team to go to Camp Perry. What could be better than to spend a summer in this way, all at no expense? First, a month in camp and, later, another month at Camp Perry, where all the shooting "bugs" expect to go at least once in their lifetime.

\* \* \*

Attention is called to the fact that the prices on Krag rifles and rifles cut to carbine length have been greatly reduced. The new price of the rifle is \$1.50, and that of the cut-down arm is \$3.50. These latter are available only at Benicia, Colo. The quality of these arms is the same as ever, the only change being the reduction in prices.



(A Unit of the National Rifle Association devoted to teaching every boy and girl in America the safe and accurate handling of the rifle.)

Conducted by H. H. Goebel

## Medal Qualifications Popular

1200 Medals Awarded During Month

THE Junior Rifle Corps program of rifle shooting is most certainly becoming more popular than ever. Records of individual target qualifications prove this statement. During the past month qualifications have come in from all parts of the country, and in many cases in large numbers. It would be a fine thing if we could take the space to list all the individual qualifications, letting the world know who our members are that have won honors.

Instructor W. P. Medlar, of Greybull, Wyo., started things rolling by submitting affidavits and targets for 53 qualifications. Every member accepted an award in recognition of their accomplishments. Several are well along toward Expert and expect to qualify in the very near future.

The Ridgewood High School Rifle Club, of Ridgewood, N. J., under the direction of Mr. Carroll E. Benedict, faculty advisor, came through with 26 qualifications. These fellows are using the five bull's-eye targets, thus saving considerable time on the range. The members are highly enthusiastic and more will be heard from them later.

Maj. George G. Bailey, president of the Riverside Military Academy, Riverside, Calif., qualified 3 Pro-Marksman, 7 Marksmen, 3 Sharpshooters, and 2 members for bars. The medal awards were forwarded direct to Maj. G. G. Bailey for special presentation.

The Fay School, of Southboro, Mass., closed its season of indoor activities, submitting returns for 58 awards qualified for during the past month. Instructor Clinton D. Park, physical director at the school, has enjoyed a most successful season of rifle shooting and reports that interest is keener than ever. Mr. Park is also director of Camp DeWitt, at Wolfeboro, N. H., which has been affiliated with the Junior Rifle Corps for several seasons.

The records established by Lieut. R. C. Wilson, of the Grover Cleveland High School, St. Louis, Mo., are far better than they look on paper. Lieutenant Wilson has made it his policy to encourage the use of all four positions for individual qualifications as well as in the matches. Nevertheless, 19 members qualified for awards and several of the boys are well on the road to Distinguished Rifle-

man. Those of you who have been following the activities of the various clubs in the Inter-Unit Matches know that the Grover Cleveland High has had no less than two teams entered in each of the monthly events. One of the teams carried off the February championship and the cup trophy.

Instructor E. E. Altick, at the Y. M. C. A., Wichita, Kans., has encouraged rifle shooting for Juniors for several years. His latest contribution is qualifications for 31 awards. Every member qualifying accepted an award, many of them bars. Instructor Altick is to be congratulated on his long and efficient service to the young people of his community.

The Kemper Military School Rifle Club, of Bonnville, Mo., is another going live-wire shooting outfit. Instructor John B. Barnes has 58 awards to present to the winners, approximately 50 per cent of them being bars. From all accounts the Expert medals will soon be in evidence at this institution.

The Lane Tech. High School Rifle Team, of Chicago, Ill., we are all familiar with. Lieut. Col. E. Pearsall has had the boys shooting for Junior Rifle Corps awards ever since the inception of the work. Twenty-eight members have been added to the long list of medal winners at the institution, with more coming.

Instructor R. H. Anselm of Kansas City, Mo., has come into line with qualifications for 11 awards. This club has recently reorganized and the members are "rarin' to go." More will be heard from this group in the matches.

The girls at the Central High School, Washington, D. C., have also been doing their bit, and 54 awards were issued Miss Louise Hart, instructor in charge, for presentation. These girls boast a crack shooting outfit and are out to add to their laurels before the season gets much further along.

Lieut. Col. John J. Mudgett, of the Polytechnic High School, Los Angeles, Calif., has accounted for 15 awards. The members of this club are shooting quite regularly and have designs on annexing several Expert medals to their array of decorations in the near future.

Concordia College, of Fort Wayne, Ind., is also to be listed in the summary of the month's work. Exactly 49 medals have been awarded the future Experts of this institu-

tion. Walter Warneck, a sharpshooter, is taking an active part in the club's activities and is intent on having every member of the club a medal winner.

Last, but not least, is an accounting of the splendid work of Capt. James C. Anthony, at the John Marshall High School, Richmond, Va. All records for the month were shattered when targets and affidavits reached National Headquarters calling for 129 awards. This about closes the term of rifle shooting for the season, but Anthony is already laying plans for the fall, when the sport will be sponsored more extensively.

### NORTHWESTERN HIGH SCHOOL WINS MARCH MATCH

ALTHOUGH twenty-five teams made returns in the March competition there were twelve teams that did not shoot. Last month twenty-seven clubs finished the match, while seven did not make returns.

The match to be conducted during April is the last Junior team match of this kind that will be conducted until next fall. There will, however, be conducted, during the month of May, a team match open to all Junior organizations in good standing with the Junior Rifle Corps. The purpose of the championship match to be fired in May is to determine the best shooting outfit among Junior clubs. The team that shoots the highest score will win the match; 1,000 will be the possible; the course of fire will be exactly the same as the matches that have been conducted during the past six months, that is, 20 shots for record per man in the prone position.

All clubs that are entered in the Junior Match to be fired during the month of April will automatically be entered in the final match to be shot in May and targets will, accordingly, be forwarded to these teams early in May. It is hoped, however, that other teams that have not been shooting in these matches will take a part in the final match. New teams are requested to notify National Headquarters promptly if they expect to shoot so that targets may be sent out without delay.

Official bulletin for the March match follows:

#### OFFICIAL BULLETIN N. R. A. J. R. C. MONTHLY MATCH FOR MARCH—APRIL 11, 1927

	Pos.	Score	True
	sible	made	score
1. Southeastern High School, Detroit, Mich.	984	984	984
2. Township High School, Evans-ton, Ill.	960	950	959
3. Porterville U. H. School, Porterville, Calif.	800	799	799
4. East Orange H. S., East Orange, N. J.	910	908	908
5. Crestline Y. M. C. A., Crestline, Ohio	887	884	884
6. Unit 2043, Richmond, Va.	750	753	747
7. Fresno High School, Fresno, Calif.	970	975	965
8. Porterville U. H. S. Team No. 1, Porterville, Calif.	937	932	932
9. Davenport High School, Davenport, Iowa	910	904	904
10. Crosby High School, Team No. 1, Waterbury, Conn.	920	913	913
11. Malden High School, Malden, Mass.	905	898	898
12. Troop No. 32, B. S. A., Kansas City, Mo.	675	667	667
13. Crosby High School Team No. 2, Waterbury, Conn.	850	841	841
14. Wilby High School, Waterbury, Conn.	850	860	840
15. Lewis-Clark High School, Spokane, Wash.	925	912	912

16. Kirkwood School, West Hartford, Conn.	835	820	820
17. Leavenworth High School, Waterbury, Conn.	875	891	859
18. Irving Park Rifle Club, Chicago, Ill.	925	901	901
19. Hill School, Pottstown, Pa.	940	904	904
20. Harding High School, Bridgeport, Conn.	1,000	945	945
21. Larchmont High School, Larchmont N. Y.	894	826	826
22. Bennett High School, Buffalo, N. Y.	725	812	638
23. Watertown High School, Watertown, S. D.	725	824	626
24. Unit 562, Fall River, Mass.	800	582	582
25. Unit 669, Bronx, N. Y.	1,000	779	779

## UNABLE TO SHOOT

Northwestern H. S., Detroit, Mich. .... 965

## NOT REPORTED

Hyde Park Y. M. C. A., Team No. 1, Chicago, Ill. .... 875  
Hyde Park Y. M. C. A., Team No. 2, Chicago, Ill. .... 825  
Unit 389, Oak Park, Ill. .... 825  
City Public School, Menominee, Mich. .... 720  
Unit 2944, Greybull, Wyo. .... 893  
St. Pauls Rifle Club, New York, N. Y. .... 925  
Portsmouth Y. M. C. A., Portsmouth, Ohio. .... 800  
Silver Bay School, Silver Bay, N. Y. .... 820  
Unit 2654, Newtonville, Mass. .... 951  
G. C. High School, St. Louis, Mo. No. 1 .... 945  
G. C. High School, St. Louis, Mo. No. 2 .... 930

\* \* \*

## LAST CALL FOR ENTRIES!

IF YOU want to get in on some real competition with a National Championship at stake enter the N. R. A. J. R. C. Individual Championship Match. Announcement of this event has been carried in previous issues of the *News*, but for the benefit of those who have not entered we are giving the conditions again. The time is short, for the match is already under way, but as returns are not due until May 23, many will have time to fire and make returns on schedule. Let every individual and club member of the Corps show his sportsmanship by entering today.

## RULES FOR NATIONAL INDIVIDUAL MATCH

**Eligibility.**—Any Junior individual or club member of the N. R. A. J. R. C. who has not reached his nineteenth birthday.

**Targets.**—Official N. R. A. J. R. C. two-to-ten count, five-bull targets will be furnished for the match. No other targets will be accepted. The information requested on the targets must be fully given.

**Conditions.**—Four stages. A stage will consist of 10 shots, fired at the convenience of the individual concerned. A stage must be completed the same day started. First stage, 10 shots prone, 2 shots in each bull; second stage, 10 shots sitting; third stage, 10 shots kneeling; fourth stage, 10 shots standing. No sighting shots will be taken.

**Rifles.**—Any .22 caliber.

**Ammunition.**—Any rim-fire .22 caliber.

**Sights.**—Metallic.

**Distance.**—Targets must be 50 feet from the firing line, outdoors or indoors.

**Range.**—Any safe 50-foot range.

**Entrance Fee.**—Twenty-five cents.

**Witness.**—If a club member, targets must be witnessed by the instructor, or by some one appointed by him. If an individual member, by a responsible adult.

**"THE RIFLE RANGE IS BY FAR THE BIGGEST ATTRACTION THAT THE 'Y' HAS EVER HELD FOR BOYS"**

THE above quotation is taken from Instructor J. Howard Engle's recent letter to National Headquarters, which we are reprinting below. Instructor Engle's first experience with the sport of rifle shooting as conducted by the N. R. A. J. R. C. was last summer, when it was first installed at Camp Rogers Kemp. Taking the immediate interest and enthusiasm of the boys, the sport soon became one of the leading camp activities. Realizing its drawing power and constructive value, a new range was recently opened at the local "Y" in Tulsa, and results to date are far beyond all expectations. Instructor Engle's letter telling of the overwhelming popularity of the sport follows:

**THE YOUNG MEN'S CHRISTIAN ASSOCIATION, TULSA, OKLA.**

Tulsa, Okla., March 28, 1927.

Mr. H. H. Goebel, 1108 Woodward Bldg., Washington, D. C.

My dear Mr. Goebel: I am indeed grateful for your prompt shipment of medals ordered by wire. They arrived Saturday morning just in time for our big rush. In the five weeks that our rifle range has been in operation we have up to date awarded approximately 70 medals to 40 boys. It's spreading like wildfire. It is going over away beyond our anticipations and expectations. It has become so popular that the men are clamoring for a chance to use the range. When we first opened the range we had expected to run it two evenings a week after school and on Saturdays, but before the first week was over we were compelled to open it every evening after school. On Saturdays the boys simply "swamp" the place.

To date I have conducted four different matches, three with our Boys' Club of the Y. M. C. A. and one with the four classes in the High School. The rifle range is by far the biggest attraction that the "Y" has ever held for boys.

I will be glad to get the diplomas when

they arrive, and if it is satisfactory to you I would just as soon issue all diplomas here at my office. However, if you prefer to issue diplomas to the boys who have already qualified, that will be satisfactory to me. I will send in names of boys who have qualified in a few days.

Very sincerely yours,

J. HOWARD ENGLE,  
Secretary for Work with High School Boys.

\* \* \*

**THE JUNIOR MATCHES AT CAMP PERRY**

THE announcement of the National Matches at Camp Perry, Ohio, will again bring joy to many of our members who have in the past attended the Junior camp of shoulder-to-shoulder matches. This part of the program has always been a popular one and should be well attended, in view of the fact that the national matches were eliminated last year.

Col. A. J. Macnab, director in charge, has announced that the National Matches will be from August 21 to September 4. The Junior matches will be conducted during the School of Instruction from August 21 through August 27.

Although we have not as yet prepared the exact events to be fired with their course of fire, you can rest assured there will be enough competitive shooting to keep every one on his toes all of the time. In addition to the shoulder-to-shoulder team and individual matches, there will be novelty shoots, as well as games and sports, swimming included. If you have never been to Perry, ask the fellow who has been there the kind of a time he had. You'll get the bug also, and will begin to make plans now. We'll keep you informed of new developments, also reduced-fare rates.

Camp Perry is located on the shore of Lake Erie, approximately 30 miles east of Toledo and 80 miles west of Cleveland. LaCarne is the railroad station, 2 miles from camp, and busses run regularly to camp as well as an accommodation train.

Every year we have a great many members join us at Perry at the last minute. We

(Continued on page 31)



**Y. M. C. A. RIFLE RANGE AT TULSA, OKLA.**—Instructors LaRue Finley (left) and Odie Huggins (right) supervising as J. Howard Engle, Range Officer and Y. M. C. A. Secretary, is awarding the first medals won on the new range.

# New Instruction Manual for Juniors

By Captain Walter G. Layman

WE HAVE long felt the need of a new Instruction Manual to replace the former publication, the contents of which is now for the most part obsolete. The new manual, written by Capt. Walter G. Layman, Infantry, U. S. Army, for more than seven years an instructor in the use of small arms at the Infantry School, deals almost entirely with proper instruction and range construction. This publication will be ready for distribution in the near future, but for the immediate benefit of our many readers, chapters in sequence will be published monthly.

Chapter 1 starts with a brief introduction, giving the object, organization, membership, resolutions, and code.

Chapter 2 deals entirely with the care and cleaning of the rifle.

Chapter 3 describes several methods of instruction.

Chapter 4. On sighting and aiming, also explains the use of the sighting-bar.

Chapter 5 goes into length explaining the different positions and how to get into them correctly. The sling and its adjustment is also covered in this chapter.

Chapter 6. The trigger exercise—the most important of all exercises.

Chapter 7. The group test, explaining the manner of adjusting the sights on your rifle.

Chapter 8 is given over to range practice.

Chapter 9. Organization—with individual and club advantages.

Chapter 10. Range construction—indoor and outdoor, with suggestive helps for lighting, heating, ventilation, target-trolleys, back-stops, firing-points, target-frames, shelters, etc.

Chapter 11. Range procedure—giving safety and range rules, as well as range instruction.

Chapter 12. Equipment—telling what the shooter of today wears for comfort; the rifle-rack, cleaning-rack, cartridge-blocks, etc.

## CHAPTER I—INTRODUCTION

### OBJECT

The National Rifle Association Junior Rifle Corps is now composed of more than 125,000 boys and girls, located all over the United States. Its object is to teach the safe and accurate handling of the rifle and to encourage its members to take part in a fine, wholesome sport which builds character, developing the attributes of concentration—accuracy, courtesy, patience, and obedience—and the qualities of fair play and manliness which make for self-control, which are through life so essential to success.

### *A National Organization*

A rifle played a most important part in the founding of our great nation; rifle-firing is therefore a sport which is the rightful heritage of every American boy and girl. It is universal in its application because the little fellow can compete against the big fellow—the girl against the boy; your club can compete against another, and, best of all, members can compete against other members in all parts of the country by mail or telegraph.

### Membership

Any boy or girl not over 18 years of age who will agree to abide by the rules of the Corps and who will learn the object, code, and practice the exercises and take the test before firing, is eligible to join. There is a right and a wrong way to do everything, and the Corps will teach you the right way, but you must practice faithfully the different exercises outlined in the Manual if you expect to become a good shot.

### *Purpose*

This manual deals only with instruction and range construction. Its purpose is to present a complete course of instruction on how to

handle a rifle safely and accurately, how to qualify in the different courses, and how matches are conducted by the National Headquarters. The Rule Book contains full information concerning the organization of clubs, membership, officials, targets, reports, supplies, matches, etc., and may be obtained upon request from the National Rifle Association Junior Rifle Corps, 1108 Woodward Building, Washington, D. C.

### *The Resolution*

Each member upon being accepted into the Corps must make the following resolutions:

1. I will always strive to lead a manly life.
2. I will encourage fair play.
3. I promise to carry out the principles of the Corps.
4. I will carry out faithfully the exercises prescribed.
5. I will try to become an expert shot.

### *The Code*

The Code should be learned by every member.

1. I will never point a gun at anything which I do not intend to shoot.
2. I will never load my gun when any one is in front of me.
3. I will never stand in front of any one who is loading a gun.
4. I will always keep my face away from the muzzle of a gun.
5. I will never cock and pull the trigger for fun.
6. I will, when loading my gun, keep the muzzle pointing toward the front and in a safe direction.
7. I will remember that a .22-caliber bullet will go three-fourths of a mile.
8. I will remember that a bullet will ricochet (glance) from a bottle or other hard surface.
9. I will remember that a .22-caliber bullet will go through a board fence.
10. I will never shoot directly at a flat, hard surface, as the bullet will probably glance from it.
11. I will remember that a bullet will glance up or off the surface of water.
12. I will always look through the bore before firing to see that it is clear.
13. I will always carry my gun over my shoulder, muzzle pointing up, or with the stock under my arm, muzzle pointing to the ground.
14. I will carry my gun loaded only when hunting, and then I will be sure it is locked.
15. I will never shoot at a song-bird or harmless animal for sport.
16. I will always be sure that no wounded animal or bird is left to suffer.
17. I will always put my gun over first before I climb a fence, and, if it is a wire fence, I will not climb over at the same place.
18. I will always give my gun a thorough cleaning as soon as I am through firing.
19. I will look through my bore before cleaning to see that it is clean and remember that if rust forms it will eat into the barrel.
20. I will protect the bore and metal parts of my gun from rust by giving them a thin coating of grease or oil.
21. I will never leave a rag or any obstruction in the bore of my gun.

## CHAPTER II

THE rifle is a fine piece of mechanism. It must be kept clean, free from rust, and well lubricated if it is to do good work and remain in a serviceable condition. There are a number of things which members can do and are liable to do that are not good for a rifle, and the most serious of these is neglect. Neglect ruins more perfectly good rifles than any other abuse. A rifle, when properly taken care of, will last a lifetime of ordinary usage, but it can be

hopelessly ruined by a few days of neglect. No one who thinks anything of his rifle will forget to clean it, or use it as a hammer, or for a lever to lift logs or stones, or otherwise mistreat it.

It is an established fact that polished steel will not rust as easily as steel which is rough, so we must do everything possible to keep the bore smooth, bright, and in good condition. This is really very easy and simply means that the bore and all metal parts must be properly cleaned and oiled, which protects these parts against rust and dirt, the destroyers of steel.

When you look through your bore you will notice it seems to be twisted or spiral in shape. The cut-in portions are termed the "grooves," while the outstanding parts are called "lands." These grooves and lands are put in the barrel to give the bullet a true and straight flight to the target, and if they are damaged inaccuracy results. The bullet being slightly larger than the bore, when driven into the barrel by the powder gases, swages into the grooves, forming a perfect gas check and insuring full and even force for the powder charge. A rough or rusted barrel causes lead to be cut off from the bullet, and to stick in the barrel, and over this the next bullet has to force its way. If the rifle becomes too badly fouled or the lead gets too thick in the bore, the bullets will not bore through the air properly, but will tumble over and over, which causes them to "keyhole" at the target; that is, make a long tear in the paper. You can not hope to do accurate shooting if you permit your rifle to get in this condition.

#### Ordinary Cleaning

When your rifle is not being fired it is a very simple matter to keep it in good condition, once it is properly cleaned. The important

things to remember are: bore and all metal parts must be clean, the bore protected by a thin coating of good gun grease and the metal parts lightly oiled. If a little linseed oil is placed in the palm of the hand and rubbed into the stock, it not only preserves it but greatly improves its appearance.

#### Cleaning After Firing

When a rifle is fired there are deposited in the bore two kinds of fouling; one comes from the powder and the other from the primer. This fouling damages the bore and will soon cause the rifle to become inaccurate. It must be removed as soon as you complete your firing for the day.

Always clean your rifle from the breech, using soft flannel patches, and the brass cleaning rod, if possible. Soak several of these patches in water, place them on the end of the cleaning rod, one at a time, and run through the bore until they come out clean. Then, using dry patches, dry the bore and all metal parts, being sure that all moisture is removed. Inspect your bore to see that it is clean. Next, saturate a patch with gun grease and, using the ramrod, run it through the bore several times until you are certain every part is thoroughly greased. Dust out screw-heads and crevices with a small brush, wipe over all the metal parts, including the bolt mechanism and the magazine, with an oily rag. Clean the stock.

Care should be taken not to use large patches in cleaning, as they will cause the rod to stick in the bore. If your rod becomes stuck and you cannot pull it straight out, do not wiggle it around; take it to a gunsmith.

#### THE JUNIOR MATCHES AT CAMP PERRY

(Continued from page 29)

are glad to have them with us. Nevertheless, it would materially help in planning our matches and equipment if we could know in advance the approximate numbers that will attend. We expect that all of our clubs in Ohio, Michigan, Illinois, Indiana, Western Pennsylvania, and New York will make special effort to have delegates present representing their shooting outfits.

\* \* \*

#### EXPERTS! LOOK AT THEM!

IF YOU will stop for a minute and renew in your mind the course of fire for Expert Rifleman, you will have a good idea of the amount of shooting the members of your great organization are doing these days. To become an Expert requires conscientious effort, for it is no little matter to qualify in the four positions.

There are hundreds who are well on the way to this goal, having completed their prone shooting and their names are soon to be listed as Experts. If you are among those competing for this award, keep up the good work and do not feel satisfied until you have reached your objective. The following members have submitted targets of merit and are going after the highest individual qualification, that of Distinguished Rifleman:

Edwin C. Ditzel, Davenport, Iowa.  
Howard Gill, St. Louis, Mo.  
Fred Lyman, Ames, Iowa.  
Bruce Powell, Spokane, Wash.  
Duncan Van Norden, New York City.  
E. L. Creager, Boonville, Mo.  
J. Riggs, Boonville, Mo.

Dick Nelson, Spokane, Wash.

Ned Klein, Spokane, Wash.

Clinton Daley, Portersville, Calif.

Andrew Pierson, Cromwell, Conn.

Richard Strauss, Detroit, Mich.

C. Stockwell, Detroit, Mich.

Robert Champlin, Saltsburg, Pa.

Loren Trabert, Evanston, Ill.

Philip Ronfor, Norwood, Ohio.

Henry Martin, Columbus, Ohio.

A. M. Zimmerman, Boonville, Mo.

A. J. McQuire, Boonville, Mo.

W. M. Wing, Washington, D. C.

Rodney Risley, Pleasantville, N. Y.

Lawrence Wilkins, Norwood, Ohio.

Joseph Geraghty, St. Paul, Minn.

\* \* \*

#### DISTINGUISHED RIFLEMAN

TO OUR select list of Distinguished Riflemen we have this month added the six names listed. These members are truly rifle shots, having made ten of the five bull's-eye targets in each of the four positions, placing two shots in each bull's-eye for record. In the prone and sitting positions each bull's-eye scored 18 points or better, while in the kneeling and standing positions each bull's-eye scored 16 points or better. Our many Experts are now going after this award, determined to complete the series of Junior Rifle Corps decorations!

Herbert Greenberg, Bronx, N. Y.

Earle Harvey, Waltham, Mass.

Wayne Carver, Chicago, Ill.

Frank Brooks, Wichita, Kans.

Andrew Pierson, Cromwell, Conn.

Sidmon Micewicz, Chicago, Ill.

#### "OUR ORGANIZATION"

A Composition  
by Rifleman Irving Spar

RIFLEMAN IRVING SPAR, of Brooklyn, N. Y., is highly enthusiastic over the Junior Rifle Corps program and the many individual qualifications, and has submitted a composition on "Our Organization." Irving has the Junior Rifle Corps spirit and is intent on making "Our Organization" the best in the world. The composition follows:

"A rifleman is a boy whose chief delight is in having a rifle in his arms, his eyes on the sights, and sights pointed toward the bull's-eye. His ambition is to advance from Rifleman to Expert Rifleman. He is proud of the number of bull's-eyes he hits. He is acquainted with his rifle, from stock to muzzle, and can clean and give it the proper care.

"Long ago, when America was young, everybody knew how to use a rifle—men, women, boys, and girls. This was necessary in order to defend themselves. The rifle was their best friend. As years are passing on, people do not care to know how to use it. They rely upon it in times of war and other national troubles. The National Rifle Association Junior Rifle Corps was organized to create this interest. Its main purpose is to teach every boy and girl in America how to safely and accurately handle a rifle. The Boy Scout organization is constructive in its own purpose, as are other organizations, but in time of need knowing how to use a rifle is the most important of all. That is why 'our organization' is the best in the world."

## Trade News

### THE ROMANCE OF KLEANBORE CAN NOW BE TOLD

By CAPT. W. E. WITSIL

Assistant Ballistics Engineer, Remington Arms Co.

EVERY small-bore shooter is familiar with the difficulties that for years have accompanied the use of all makes of ammunition, and he is aware of the necessity of exerting the greatest care and vigilance in promptly and thoroughly cleaning the rifle bore to guard against corrosion, rusting, and pitting. This has been especially true with smokeless powder ammunition, and to a lesser degree with Lesmok and similar powders. Despite the greatest care, many a fine accuracy barrel has been ruined practically overnight by the insidious chemical action of priming and powder residue, which is almost incapable of being removed except by the use of boiling water or steam, and then care must be used to dry the barrel and frequently thereafter clean it again and again.

It remained for Remington, with its staff of chemical and ballistic engineers, to tackle this problem, and give the long-suffering shooting fraternity cartridges that would not cause corrosion, rust, or pitting. It is Remington's claim, in fact, that it is unnecessary to clean the bore of the rifle *at all* if this new ammunition—Kleanbore—is used exclusively.

Eventually, a suitable combination of priming and powder was found, and was given most rigid laboratory tests. These tests were commenced in 1924, or two years before Kleanbore was announced to the public.

#### PROVEN SURE-FIRE

The first requirement of a cartridge is that it be sure-fire, and must not fail even in rifles with relatively weak mainsprings. The standard test to determine primer sensitiveness is to strike the primer or rim-fire primed shell by means of a small weight, usually about 3 ounces, which drops from a predetermined height. This height is established by duplicating the force of a minimum firing-pin blow. Many laboratory lots of primed shells and cartridges were subjected to these "drop tests." Tens of thousands were tested before any actual firing was done. Only after these tests were made and satisfactory results were obtained was it decided to make up "production lots" of cartridges.

And, to make assurance doubly sure, arrangements were made with several New York shooting galleries to use the then experimental ammunition exclusively and report to us their comments on its suitability and general dependability. Millions of rounds were used in this way, which was in reality the "acid test."

None of these tests had reference to the principal virtue of Kleanbore ammunition, namely, its remarkable quality of preventing rust due to chemical action. Ample evidence to prove this quality was available, but the ammunition must be up to Remington standard in all other respects as well, such as sensi-

tiveness, accuracy, uniformity, velocity, penetration, and dependability.

#### EIGHTEEN MONTHS WITHOUT CLEANING

The non-corrosive, rust-preventive feature of Kleanbore ammunition has been demonstrated repeatedly after the most severe tests imaginable. Barrels in which Kleanbore ammunition was fired have been allowed to remain uncleared for periods of six months, twelve months, and eighteen months, and upon inspection they were found to be in perfect condition—no rust appearing on cleaning cloth which was run through them. These tests embraced a series of firings from 25 shots per barrel up to 2,500 shots. It was shown that the use of Kleanbore ammunition, not only had no chemical reaction on the bore of the rifle, but actually protected the bore of the rifle from the action of the air for months after firing.

These tests for comparing the corrosive action of ordinary ammunition with the non-corrosive action of Kleanbore ammunition, involve the exposure of barrels after firing to conditions found in a laboratory humidifier, where the relative humidity is over 90 per cent and the temperature between 110°F and 120°F. Tests were also made by suspending barrels in tanks over newspapers which were completely saturated with water. This permitted a damp atmosphere to be formed in these tanks which was maintained by keeping the tanks covered. Observations were made at daily, weekly, and monthly intervals, and it was found that the barrels in which Kleanbore ammunition had been fired showed no signs of rust after more than a month's treatment under these conditions. The conditions of these tests were so severe that the bluing of the barrels was very badly attacked, and the entire outside of the barrel was usually in an advanced condition of rust. This, itself, shows a very decided contrast when the bore of the rifle is found to be so bright and clean.

#### O. K. IN STEAM ROOM

Rifle barrels were also placed in certain rooms\* in the plant where huge clouds of steam are formed, such as the annealing room, also in other processes where excessive dampness prevails. Some of our people did some personal firing with Kleanbore ammunition and purposely neglected their rifles by letting them lie around in garages, cellars, places near the salt water of Long Island Sound, and similar severe conditions. Reports have been unanimously favorable, indorsing the claims of the Remington Arms Company that Kleanbore ammunition prevents rust.

Probably the most interesting of all was an erosion test, which was conducted last year, the purpose being to determine if Kleanbore ammunition would lengthen the life of a rifle barrel over the expected life usually considered average when using ordinary .22 short Smokeless ammunition. This test was made by firing 30,000 rounds of ordinary .22 short

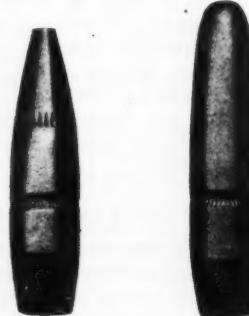
Smokeless ammunition in one rifle barrel and 30,000 rounds of .22 short Kleanbore ammunition in another rifle barrel. After 5,000 rounds, the barrel in which ordinary ammunition had been fired showed clearly the effects of erosion despite the fact that it was carefully cleaned every day, and at the end of the 30,000 rounds the barrel was absolutely useless. The other barrel, however, in which Kleanbore ammunition was used, and which was not cleaned during this firing, remained in perfect condition to the end of the 30,000 rounds, and the accuracy was unimpaired.

Kleanbore ammunition has been tried by many of the prominent rifle and revolver shooters in the United States, and the comments have been extremely favorable and gratifying. Many of these shooters purposely subjected their barrels to very severe conditions of exposure to assure themselves that Kleanbore ammunition would do what it was claimed to do. There was not one dissenting voice among all of those who gave us their impressions of the ammunition, as far as the non-rusting qualities were concerned.

#### WESTERN CARTRIDGE COMPANY BOAT-TAIL BULLETS

THE Western Cartridge Company have recently made a radical change in the design of their long open-point and soft-point Lubaloy sporting bullets. These are being given a 9-degree boat-tail base instead of the old-type flat base. A photograph is shown herewith of the new 180- and 220-grain .30-caliber bullets.

It is intended that, eventually, all of the



bullets that are long enough to permit of this new design will be so changed. At present these new boat-tail bullets are available loaded in the following cartridges:

.25 Rem. Auto.	117 grains, soft-point
.270 Winchester	130 grains, open-point
7-mm. Mauser	175 grains, soft-point
7-mm. Mauser	139 grains, open-point
.30 Rem. Auto.	165 grains, open-point
.30-06 Springfield	180 grains, open-point
.30-06 Springfield	220 grains, soft-point
.30-40 Krag	180 grains, open-point
.30-40 Krag	220 grains, soft-point
.30 Newton	180 grains, open-point
.300 H. & H. Magnum	220 grains, soft-point
.300 Hoffman Magnum	220 grains, soft-point
.32 Winchester Special	165 grains, open-point

In these boat-tail bullets the length, of course, is increased for the weight over the corresponding flat-base type, which makes for deeper penetration and consequently better killing power. The friction within the barrel has also been decreased by the shorter bearing surface, and this tends towards lessened barrel-wear and also decreases the breech pressure. Actually, the new bullets will give a slightly increased muzzle velocity over the flat-base bullets

with the same powder charge. All of these facts have permitted the new ammunition to be given from 50 to 75 feet per second more muzzle velocity than the older ammunition manufactured by this company, and the standard velocities will be changed accordingly.

Thus the advantage of these new bullets seems to be a slight increase in muzzle velocity, and a slight proportional increase in remaining velocity at the longer ranges, due to the ability of the boat-tail bullet to better overcome the resistance of the air. This will give flatter trajectory and an increase in the killing power. The killing power is also increased by the lengthening of the bullet, so that there is really quite a considerable increase in this quality. The manufacturers also claim a slight increase in accuracy. From the small amount of firing from muzzle and elbow rest that the writer has been able to do with this new ammunition in .30-06 caliber, with both 180- and 220-grain boat-tail bullets, it seems that the new ammunition is perfectly reliable and will satisfy every demand in accuracy. The accuracy obtained was at least equal to that obtained from the old flat-base bullets. All of these advantages, when taken together, loom up quite large, and result in a very desirable, ultra-modern sporting cartridge. The Western Cartridge Company are to be congratulated in this very decided forward step in modernizing sporting ammunition.

T. W.

\* \* \*

#### CONGRATULATIONS

MR. AND MRS. F. C. NESS, of Phillipsburg, Pa., are receiving from their many friends congratulations upon the arrival in their home of a little son, destined, no doubt, to become one of the foremost ballistic and small-arms experts of the country.

\* \* \*

#### THE HOOKER "FLEXIFOLD" RIFLE CLEANER

WHILE it takes a well-made, stiff steel cleaning-rod to properly clean a rifle, all hunters have always felt the need of a more portable implement for this purpose which they could carry when going extremely light, or when expecting to be away from their main camp overnight. The ordinary cord pull-through has been largely used for this purpose, either carried in the pocket or in the butt-stock of rifles having butt-plates with traps. But the cord pull-through is entirely too fragile, and the cord is liable to break or pull out of its metal end pieces, and of all the difficult things to remove from the bore of a rifle a broken pull-through is the worst. Also, the ordinary pull-through brings only a very small section of the cleaning-patch into positive contact with the bore. Some riflemen have had steel cleaning-rods with very short joints made to go in the butt-stock under the trap, but these add very measurably to the weight of the rifle, tend to destroy its balance, and are liable to rattle.

The Hooker Manufacturing Co., of Hartford, Conn., have just placed on the market an entirely new form of pull-through called the "Flexifold Cleaner," which has a great deal of merit, and is undoubtedly the best implement so far designed for emergency cleaning. It has a strong, flexible wire cable with a needle point at one end and a steel, cone-shaped plug at the other. Round flannel patches of the correct size and thickness are provided which are pierced in their center by the needle-point and then pulled down over the length of the cable to the

cone plug. The plug clears the bore just enough to insure the proper compression of the patch, and it tapers to the rear at precisely the same rate as the aggregate thickness of the patch increases due to folding, thus resulting in pressing the full length of the patch tight against the bore, using many times the surface of the patch in cleaning than does the ordinary pull-through.

The flexible cord should not be bent at an acute angle if placed in the butt of the rifle, and for that reason two of the usual holes in the butt should have the wood between them cut away, and the cleaner wound into a small oval should be packed into the resulting compartment, the vacant space left in the compartment being packed with cleaning patches. To use, simply thread a patch onto the cleaner, dip the patch and plug in water, poke the needle end and cable through the bore from the muzzle, and pull the cleaner through the bore. Pull this patch through half a dozen times, then repeat with another patch, also wet with water. Then dry the cable and plug and repeat with a number of dry patches until the bore is dry and clean. Finally, pull an oily patch through the bore a number of times. The cleaner is provided in all calibers, and the correct size patches for each caliber are also provided so as to give the correct fit of the patch in the bore. The construction of the cleaner is so strong that it would be practically impossible for it to break in the bore. It is by all odds the best emergency cleaning implement we have seen, and it will be a boon to every hunter.

T. W.

\* \* \*

#### WINCHESTER DISCONTINUES MODEL

##### 95 RIFLE IN .30-06 CALIBER

THE Winchester Repeating Arms Company have decided to discontinue the manufacture of their well-known Model 95 repeating lever-action rifle in .30-06 caliber. In regard to this they state:

"As our Model 54 rifle is a much more modern arm in every respect than the Model 95 lever action, and better adapted to handle the recently developed cartridges with their high velocities and corresponding pressures, we have decided to obsolete the Model 95 in the .30 Government .06 caliber."

We do not regard this as much of a loss, except to the left-handed shooter, for we agree with the Winchester Company that their Model 54 bolt-action rifle, of which we have invariably been having the finest kind of reports from satisfied sportsmen and riflemen all over the world, is a very much more modern and satisfactory weapon. It is presumed that the manufacture of the Model 95 Winchester in .30-40 Krag, .303 British, .35 W. C. F., and .405 W. C. F. calibers will be continued. All these cartridges are rimmed cartridges, and the maintenance of a satisfactory head space with them in a lever-action rifle is a much simple matter than with a rimless case like the .30-06. Also, these cartridges give considerably less breech pressure than the .30-06 cartridge.

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#### NOTICE

Mr. Jack Rohan, formerly editor of THE AMERICAN RIFLEMAN, is no longer associated with this magazine or with the National Rifle Association, having tendered his resignation March 31.

\* \* \*

#### Gold Life Members' Pins

\$2.50

N. R. A. Service Company

#### IN SEARCH OF A VERMIN RIFLE

(Continued from page 18)

up to 20 yards, hold being a trifle low at 150. A combination group is shown with shots fired at 100, 150, and 200 yards, without change of sight. A hold full on will strike a mark the size of a hawk at 250 yards; farther than most men can hit it. At any and all distances there were no fliers, no unaccountables. The gun is a particularly good one for offhand shooting, because it has no perceptible recoil, and changes in the manner of gripping or holding the gun make little or no difference.

The rifle is mounted with a Lyman 29½ peep sight, which is attached to the frame and extends back over the grip. It has a wind-gauge adjustment which can be turned as fine as a half inch or a quarter inch at 100 yards, and the usual Lyman elevation. The rear barrel sight is a Lyman folding leaf which has never been used, but might come in handy some time. The front sight is a new one, made by Belding & Mull, Marine Corps type, with a square blade 3/32-inch wide. The top of this sight is very sharply defined against the target, elevations are rarely wrong, and the sight has almost the accuracy of a scope.

The sight is blacker than any object seen in nature and can be held in the middle of the bull if desired, appearing blacker than the bull. It is the only good sight I know of for shooting at either a black-and-white target or at game.

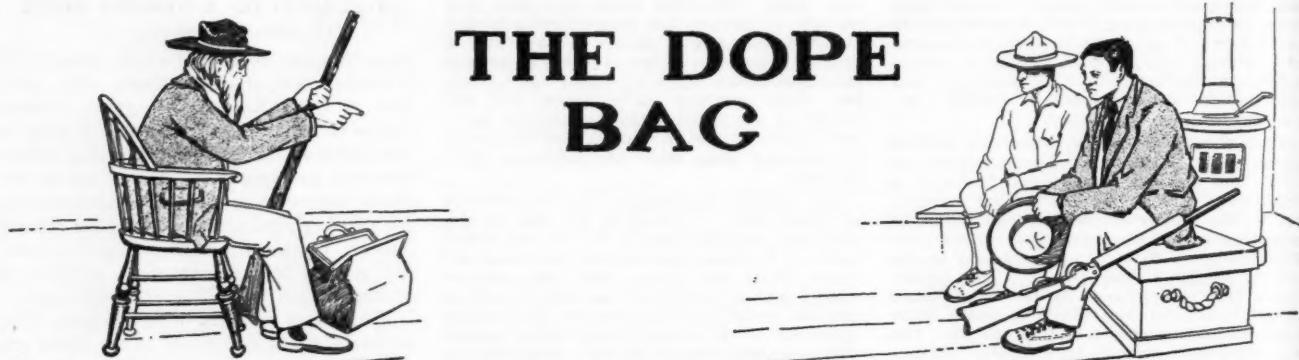
I have tried reduced loads in the gun, using Belding & Mull 55-grain lead bullets, gas-check base. Accuracy was a three-inch circle at 100 yards, using twelve grains of No. 80 powder. This load might do for small game but not for vermin shooting.

#### A GOOD RUSSIAN SPOTTER

(Continued from page 26)

years, and may be used on other rifles in Europe, but we have not seen it on any American make before. It also permits the tang to be fitted perfectly tight in the rear without danger of set-back and splitting of the stock. Any one who has tried to make a stock for a Springfield can testify that fitting the recoil shoulder properly is a problem. The recoil bolt also does away with bushings for guard screws, and anchors the recoil shock where it belongs—on the recoil shoulder—which undoubtedly helps accuracy. This is needless advice to professional stockers, but is written for the benefit of the ever-increasing number of amateur stockers who love to work on their own stocks; and many do surprisingly good work at it, aided considerably by Lieutenant Colonel Whelen's excellent articles and book on gunsmithing. The gunsmith who did my work admits freely that he got some very good ideas from Colonel Whelen's articles in THE AMERICAN RIFLEMAN, also from others in the same publication.

I was instructed to watch closely for any sign of set-back in these stocks mentioned, and report same. So far I cannot see any signs whatever of the least set-back, and doubt if it is possible for the recoil to budge the bolt.



## THE DOPE BAG

**A Free Service to Target, Big Game and Field Shots—All questions answered directly by mail**

**Rifles and Big Game Hunting:** Lt.-Col. Townsend Whelen

**Shotgun and Field Shooting:** Captain Charles Askins

**Every Care is used in collecting data for questions submitted, but no responsibility is assumed for any accidents which may occur.**

### Reloading For .30-06

By Townsend Whelen

I WANT to reload for my .30-06 Springfield Sporter for practice. I want the following loads: 200 to 300 yards—no farther, as we do not have the safe range; the lightest accurate load for 25 yards—back-yard shooting. If a heavier load would be more accurate, kindly give both. Also the lightest load for snap and aerial shooting—something about like the .22 Short; want to use this on things thrown up in the air to get the practice on snap and quick sighting, so as to be thoroughly familiar with my gun for this fall; expect to go to New Brunswick for moose. Give name of best brand of loading tools you would advise. If some parts of some brands are better than the same of others, etc., that is, if a mixed lot would be the best, kindly advise what brand of each lot to buy. I want especially to get a good mould and bullet lubricator and size—one that will not smear the bullets, as in using the "Kake-Cutter," etc. Will these sizers and lubricators really resize and lubricate the bullet and leave clean the part that are not intended to be smeared with lubricant?

I am under the impression that I read an article some time ago from your pen in which you recommend another cartridge for moose than the Remington 220-grain Express Mushroom. I used this cartridge in the .30-06 fall before last, on your instructions, which brought the answer O. K.; got the moose—a large one, in weight, but not so large horns—broadside at a little over 100 yards. The guide had beforehand told me the best place to shoot was the lungs, if possible, and told me about where to hold for them. I was lucky enough in my first shot at any big game of any kind, which was the moose, to get in a perfect center shot on the lungs; bullet went exactly through the center of his lungs. I do not know whether it knocked him down or not. I did not ask the guide, who was standing beside me, but at any rate he got behind some trees in a hurry. I ran forward, and a little to one side, so as to get another shot, and got three more at him broadside, one going away from me. Two of the four broadside shots went through him, the others stayed inside. One shot at him running away from me struck him high in the left hip and ranged forward to the

backbone. I found some of the parts of the jackets, very small pieces, and also some pieces of the lead around the lung shots. I also found one of the jackets entire—the lead had left it as though melted out.

I am simply giving this to you, as I thought possibly you would like to know the action of this bullet on the same game from different parties. This moose ran, I suppose, 150 yards. The four shots at him sideways were as follows: one through the lungs, two just missing the lungs, and one broke the fore shoulder. This shoulder shot the meat was hamburger, and bone smashed as though hammered with a sledge on an anvil; something awful, I thought, although this was my first sight of high-power bullet action on game. One of the jackets or pieces of bullet cut his heart about  $1\frac{1}{2}$  inches in length. I thought that possibly from what I had read of moose this fellow ought not to have traveled so far. Of course perhaps one of the bullets would have been fatal quickly, although I think four of them would have killed him as quickly.

If I am expecting too much, please say so frankly. You see, I do not know a thing about big-game hunting. I never killed anything bigger than a rabbit, except the one moose I just described; so you see I do not know anything about it. I expected the .30-06, from what I had read, to "knock 'em cold"; that is, if the shot was rightly placed. What is your advice on the best place to shoot moose, provided one has the time to pick his shot, as I did on my first shot?—L. C. Y.

**Answer (by Colonel Whelen).** Send 25 cents to the Lyman Gun Sight Corporation, Middlefield, Conn., for a copy of their "Ideal Handbook" of reloading tools. It will give you a whole lot of information. I am also inclosing a circular of the new book "Handloading Ammunition," which is a mint of information on this subject.

The lightest satisfactorily reduced loads in the Springfield rifle are those with bullet-like Ideal Bullet No. 308241—125 grains, with 4 grains weight Hercules Bull's-eye powder, or Ideal bullet No. 308245; 87 grains with  $3\frac{1}{2}$  grains of Hercules Bull's-eye powder. The former load is perhaps the most accurate of the two; the latter the lightest. The latter probably has an ex-

treme range of approximately 1,500 yards at an elevation of 30 degrees. Even the .22 Short cartridge has an extreme range of about 1,100 yards. So in a settled community none of these loads should be fired up into the air unless you have a clear space in the direction of fire of almost 2,000 yards—that is, a little over a mile. A lighter charge still would consist of a round lead ball with a charge of about 3 grains of Bull's-eye powder, but even this would have an extreme range of over 1,000 yards, and the accuracy would not be nearly as good as the above recommended loads.

In the above loads the bullets should be cast of Ideal alloy, or from 1 part of tin to 10 parts of lead. They should be sized to .311-inch and lubricated in a regular bullet sizing and lubricating machine. I have never yet seen really accurate bullets made without the assistance of this machine, and am frank to say that I myself cannot obtain really accurate results without its use in the manufacture of bullets. These bullets should be seated quite lightly in the cases, just far enough to make the bullets secure in the case, leaving as much of the bullet as possible to project up into the throat of the rifling. The cases should be chamfered at the mouth to remove the sharp edge so that the bullet will not be cut in seating, and the case necks should be resized so that they are .311 inch in diameter inside the neck. Use the primer recommended by the makers of the case for that particular case, or else use the Frankford Arsenal No. 70 primer, which you can get from the D. C. M.

As to tools, I have used the Ideal, Bond, and Belding & Mull makes, and have found them all very satisfactory, and all that is to be desired. Personally I am a little partial to the Ideal tools, merely because they were my first loves, and I have gotten used to them. I have a number of Ideal Nos. 3 and 10 tools, bullet moulds, and an Ideal lubricating and sizing machine that I got about 1899, and they are all still in perfect condition; have always given splendid service, and have loaded tens of thousands of rounds. Lately I have seen one of the new Bond straight-line reloading tools which I like very much, and if I was getting a new tool I believe I would get it, but I certainly would not buy it to displace one of my present Ideal tools.

Now about the killing of that moose and the cartridge that you used. I have a file in which I place all reports on killing effect of bullets. It has grown quite large, and has a lot of interesting information in it. I can

dig down into that file and get you out half a dozen letters which in the eyes of the uninitiated would condemn any cartridge. For example, I can dig up letters which would seem to indicate that the cartridge you used was utterly unsatisfactory for moose. And yet if I brought out all the letters I had on your cartridge, and you were to take the time to analyze them all thoroughly, you could come to the conclusion that your cartridge was a most excellent one for moose, and this is what I believe. In .30-06 caliber my files show that the Western 180 and 220 grain cartridges and the Remington 220-grain Express Mushroom and Delayed Mushroom cartridges are all excellent for any American game. My own reports do not conclusively show that there is any real difference in the killing power of these four cartridges, except that the reports of Stewart Edward White and Leslie Simpson in Africa do seem to indicate that the Western 220-grain bullet is slightly superior to the others for African game.

Reports from the game fields also show that in a great many cases moose shot through the heart have walked or run 100 to 200 yards before dropping. They also show that a deer when shot through the heart will about half the time run 50 to 150 yards before dropping. It is a good idea when shooting at moose in particular to keep on pumping lead into him as long as he stands on his feet. My old friend Charlie Barker, of New Brunswick, who has been in at the death of more moose than any man I know, says that of all the cartridges he knows of the .30-06-220 seems to kill the quickest; but even it cannot always be relied upon to knock a moose off its feet. Let me illustrate by a couple of incidents. I was once hunting mule deer, and came to a fallen log about three feet high. I rested the barrel of my rifle on the log preparatory to climbing over it, and I had hold of the grip of the rifle with my right hand. At this instant a mule deer yearling buck jumped up from behind the log and stood with his chest practically against the muzzle of the rifle. With my right hand I pulled back the hammer and pulled the trigger. The deer turned around and ran off out of sight. I followed along a trail that was thickly splattered with blood and the insides of the deer, and I came to the deer 75 yards off. The bullet had gone in the point of the chest, blown the heart to pieces, and continuing on had ripped open the belly of the deer, so that as it ran practically all of the lung and abdominal cavity had fallen out, and the deer was nearly completely dressed when I found it and yet it had run 75 yards.

Again, I shot a bull moose, 100 yards, .30-06 Springfield with Newton 170-grain pin-point bullets, M.V. 2,600 f.s. This was in 1916, before we had our present modern bullets. First shot struck in the point of the chest and I guess it blew the heart to pieces; moose turned around sideways, and next shot struck just at the shoulder, and I guess blew up what was left of the heart; moose turned completely around and was starting off when my third shot struck him in the seat of his pants, when he reared up and fell over stone dead; time for all three shots about five seconds. Theoretically the first shot should have killed him dead in his tracks, but it just did not, and on most big game a hunter has many such experiences. Two other moose that I have shot were killed dead with one shot each, although one of these had been previously wounded by me an hour before, but that was a relatively insignificant wound.

I should say that there was nothing at all wrong with your shooting that moose, either in the cartridge that you used or in your marksmanship. The most experienced hunter and a fine game shot would have done

no better under the circumstances, and I doubt if an elephant rifle would have put that moose down much if any sooner than you and your rifle did. Just go right ahead the way you are aiming; you are all right.

#### DOPE ON MANNLICHER-SCHOENAUER

I SUPPOSE you have this information long before now, but the following are the muzzle velocities obtained in a late test in the 6.5 Mannlicher-Schoenauer with an 18-inch barrel, including the chamber. Du Ponts tell me that the higher velocities obtained with No. 15½ give the same, sometimes slightly less, pressure than with 17½. If 15½ gives the highest velocity in their rifle, don't you think that is the best powder for my rifle with a .22-inch barrel?

44 grains No. 15½—129-grain Lub. Exp.	2,660 f.s.
41 grains No. 17½—129-grain Lub. Exp.	2,615 f.s.
42.5 grains No. 15½—140-grain Lub. Exp.	2,560 f.s.
39.5 grains No. 17½—140-grain Lub. Exp.	2,470 f.s.
40 grains No. 15½—160-grain S. P. point bullet	2,320 f.s.
36 grains No. 17½—160-grain Lub. Exp.	2,215 f.s.

The above are said to be the maximum safe loads.

So much for the powder; but the bullet question has not been settled, and probably never will be. The Western Cartridge Co. tell me that one of their most rabid 140-grain fans switched squarely over to the 160-grain bullet. The heavier bullet may be more accurate, as the rifle is specially chambered for it, but if the 140-grain one is loaded out far enough so it fits into the bullet seat, this should be just as accurate. I asked an experienced hunter and rifle shot if he did not think that the 160-grain bullet was too heavy for the 6.5 mm. case. He considered that it was and that the cartridge was unbalanced. What do you think? You know we have to strain a point to get enough velocity to make this bullet upset properly. As to killing power, Mr. Riggall last year used a 7 mm. and he found that that 139-grain open-point killed better than the heavy 175-grain Western bullet. The lighter bullet fired into green pine had also the best penetration. I have no experience on game with either the 140- or 160-grain bullet, but I have with the 100-grain open-point in the .250 Savage, and I have found that a good killer. When the 140-grain bullet is seated in the throat, there still remains fully one-eighth of an inch in the shell, and a cartridge 3 and 3/32 inches over-all will work through the magazine.

So you see there is not much of a jump. The 140-grain bullets loaded by Western are set deeper. The 120-grain Newton bullets give about 100 f.s. more velocity than the 140-grain, but they are too short for the long throat, have too much of a jump to be accurate, and I imagine would also allow the gases to get past. I have been thinking of getting the rifle rechambered for the 140- and 129-grain bullets, by Hoffman. This would preclude using the 160-grain bullet. But if I have this done the stock will have to be fitted to the barrel again, and I don't like to disturb it. What do you advise—leave it the way it is? Is there any danger of gas cutting with the 140-grain bullet the way these rifles are now chambered and throated? The diameter of these bullets is about .2625, a little smaller than the groove diameter of the barrel; not more than .263.

The only sight, with the aperture any-ways close to the eye, is the Lyman on the bolt. As this puts extra weight on the

mainspring, I would ask you if there is any objection to putting a few thin aluminum washers on the firing-pin to give the spring a little more tension? If not, how many washers should I put on, each being 1/16 inch thick? If there are any objections, will you please let me know why the washers should not be used? The gunsmith here does not use the Lyman special dovetailed nut but cuts a dovetail in the cocking-piece nut to drive the sight into. In doing this the screw in the end of the firing-pin has to be ground down flush. Will that do any harm? The special nut weighs something, and there is that much less weight on the mainspring.

You say that if a .25-caliber high-power rifle is used, it is best to use a high-velocity bullet that "explodes," as a "mushroom" bullet of such a small diameter does not give the necessary tearing effect on game. The 6.5 mm. bullet is not more than about .006 inch larger in diameter, so why should the soft-point heavy bullet be better than the lighter one with the open point and the explosive effect in the vitals of an animal? I have not used the 6.5 mm. on game yet, but I am going to use it exclusively on deer, and, perhaps, small bear. I want to pick the most effective bullet, and stick to it. The open-point expanding bullet has the highest velocity and flattest trajectory. According to Mr. Riggall, it has the better penetration and is a better killer than the heavy, soft-point one. Another advantage in favor of the "explosive" bullet is that it is not necessary to bleed an animal shot in the lungs. I find that the open-point does not spoil so much meat as the soft-point bullets of same weight and the same velocity, as they get into the lungs, or nearly so, before they "blow up." Quite enough for this time.—C. J. J.

Answer (by Colonel Whelen). I have your letter of February 21. This letter is fine. It shows that you have been doing a whole lot of studying and investigating, and we are getting around now where we are talking more of the same language.

I am glad to get that recent du Pont table of velocities with their various charges for the 6.5 mm. rifle with 18-inch barrel. It sets to rest the matter of the actual velocity obtained with du Pont powders in these short-barreled rifles. I wish we had the same data for factory loads. However, I imagine that you have gotten to the point where you are loading your own ammunition, and therefore you now know just what velocity you are getting.

Let us now look into the matter of the two bullets, 160- and 140-grain, made by the Western Cartridge Co.

I have in my library almost all of the books of the noted big-game hunters of the world. There are a great many books by Englishmen describing hunting all over the world, and in most instances giving many details of the rifles and ammunition used and their effect on game. In a very great many cases these Englishmen have used the .256 Mannlicher rifle. In fact, the .256 Mannlicher may be said to be the Englishman's "Springfield." He has used it a lot—perhaps more in the days that have gone than at present—but we have in these books a record of about thirty years of its use on big game the world over. Now, this .256 Mannlicher rifle is so like the Mannlicher-Schoenauer 6.5 mm. rifle as to be practically the same weapon. The Englishman's rifle has usually the old Mannlicher magazine with box-magazine somewhat like that on the Model 1895 Winchester. It usually had a 26-inch barrel. The bore and the bullet were the same size as the 6.5 mm. Invariably these rifles used a bullet of about

160 grains, either with split jacket, or what the Englishmen call "dum-dum." The dum-dum bullet seemed to have much the best killing power, almost all of the experienced hunters preferring it to the split-jacket bullet. The late F. C. Selous very much preferred it. I obtained some of these bullets, and sent one to the Western Cartridge Co., and their 6.5 mm. 160-grain bullet is practically modeled after it. Now, with this bullet at a muzzle velocity of 2,300 f. s., the Englishman has killed game all over the world, and he has killed it so neatly and so quickly and so humanely, as compared to many other rifles, that invariably he is very enthusiastic about it. This is the invariable experience. I can recall no failures except one Englishman said that he did not believe the cartridge was quite heavy enough for our wapiti. Of course, this does not mean that this rifle is suitable for elephant, rhino, and buffalo. No experienced hunter would ever use such a cartridge on such game if he could possibly help it, although these rifles have often been used on such animals in an emergency, and have sometimes killed. In fact, a very few elephant hunters (very experienced men) have used this rifle on elephants, using, however, full-jacketed bullets, and shooting in the heart or brain. There is so much evidence on this cartridge that I do not think that there is the slightest doubt but what this bullet at m. v. 2,300 f. s. or over is suitable for any American big game. Added to this we have the experience of Mr. Charles Sheldon. He has killed over 500 head of American big game, including between 70 and 80 grizzly bears, and he is still using the same rifle, a .256 Mannlicher, 26-inch barrel, 160-grain bullet, m. v. 2,300 f. s.

Now, let us look at the other bullet—the 140-grain open-point. I am sorry to say that it just happens that I have no absolutely conclusive reports of its effect on big game, not that it has not performed satisfactorily—I just simply don't happen to have any records of such performance. Therefore, we have to compare it with other like ammunition. Let us take the muzzle velocity of this bullet at 2,475 f. s. At 100 yards it will have a remaining velocity of about 2,250 f. s., and at 200 yards about 2,050 f. s. Let us compare it with the 150-grain expanding bullet in the Springfield. It really is not so much different than that bullet. It weighs 10 grains less, but its greater length compared to its diameter will probably be an advantage. There is really no difference between the two bullets that amounts to anything at all in connection with their ability to kill at the same velocities. But they are not fired at the same velocities. The 6.5 mm. bullet is just exactly 100 yards behind the .30-150 Springfield bullet in remaining velocities. The 100-yard velocity of the Springfield bullet is almost exactly the muzzle velocity of the Mannlicher bullet, and the 100-yard remaining velocity of the Mannlicher 140-grain bullet is almost exactly that of the 200-yard remaining velocity of the Springfield bullet. Neither can well be compared to the 139-grain 7-mm. bullet used by Mr. Riggall, because that bullet starts out at a muzzle velocity of about 2,900 f. s. in Mr. Riggall's rifle.

Now, what do we know of the Springfield 150-grain bullet at m. v. 2,700 f. s.? This is important, because what that bullet does at 200 yards the 140-grain Mannlicher bullet should do at 100 yards, and what the Springfield bullet does at 300 yards the Mannlicher bullet should do at 200 yards.

At 200 yards the 150-grain Springfield bullet still appears to have its so-called explosive effect, and to kill well on all our American game. On very heavy game, like moose, wapiti, and large bears it noticeably

does not kill as well as the 180-grain Springfield ammunition, hence the popularity of that ammunition; but, nevertheless, it does kill well. Therefore the 140-grain Mannlicher should also kill equally well and have an explosive effect at 100 yards.

At 300 yards the 150-grain Springfield bullet kills well on sheep, but it seems to have lost some of its so-called explosive effect, and it does not do very good work on our larger game at 300 yards. Sheep are harder to kill than deer. We have very little record of kills on deer at 300 yards with this bullet, because deer are very seldom shot at such a range. I deduce that the 140-grain Mannlicher bullet at m. v. 2,475 f. s. should be perfectly satisfactory for deer at 200 yards.

I also deduce from the above that either the 160- or the 140-grain bullets should be perfectly satisfactory for your purpose on deer and black bear. From my own experience with other rifles I should think that the 160-grain bullet should be better than the 140-grain bullet on raking or rear shots, and the 140-grain bullet, because of its explosive effect, should be better than the 160-grain bullet on paunch shots. One offsets the other, and there is probably no difference between the desirability of the two bullets at m. v. 2,300 f. s. for the 160-grain and 2,475 f. s. for the 140-grain. Choose whichever you wish, and rest assured that you have a cartridge which will always get you the game if you do your part correctly.

Now, let us take the other qualities of the bullets. Neither bullet will give any metal fouling. The barrel wear with each bullet at the above velocities is just about the same, and you need not anticipate any trouble from this source. Certainly you will fire three or four hundred dollars' worth of ammunition before you wear out a \$15 barrel. In the Western factory ammunition the 160-grain bullet is decidedly more accurate than the 140-grain bullet. In my tests with my own Mannlicher-Schoenauer rifle, Lyman sight on the cocking-piece, muzzle and elbow rest, I got about 2½-inch groups at 100 yards from the 160-grain ammunition, and about 3-inch groups from the 140-grain ammunition, on an average. What does this difference amount to in big-game shooting? Absolutely nothing! From the standpoint of big-game shooting the accuracy of one cartridge is every bit as good as the other. Moreover, I am pretty certain that, if I loaded my own ammunition, and seated the 140-grain bullet out of the case as far as I could and still have the cartridge work through the magazine, the 140-grain bullet would give just as good accuracy as the 160-grain bullet. Here, again, you can take your choice. One bullet is just as good as the other.

I ought to give my own choice here. My own choice would be for the 160-grain bullet, for two reasons. It has a long record of successful performance back of it. I think that the number of times that one has to shoot at an animal faced away from one, or running away from one, will be greater than the number of times one accidentally hits an animal in the paunch.

I should not, if I were you, have my rifle rechambered. I see no need for having it rechambered. The Mannlicher barrel is a very well-made, accurate one, and in any rifle barrel accuracy depends largely on the chambering. Rechambering might hurt the accuracy; it would not improve it any.

In my own rifle, which has the Lyman rear sight on the end of the firing-pin, I can see no indication of any slowing up of the lock time, and no indication of any tendency towards poor ignition. Therefore, I can see no reason to try to get more strength in the mainspring by placing washers on the firing-pin rod. On the other hand, I see no

objection to doing so if it is done right. I can not tell you how many washers you should put on. Put on enough to give the mainspring measurably more power, but not enough to interfere with the working of the breech mechanism, nor not enough to make the rifle measurably more difficult to cock. Try the firing-pin, before and after placing the washers in position, on the fired primers in fired cases. Perhaps you can tell by the indentation of the primer when the firing-pin is striking a heavier blow. My advice here, however, would be to let well enough alone. I can not see that the way your gunsmith has fitted your Lyman sight to your rifle has done any harm at all.

I am a great believer in a man having absolute confidence in his rifle and ammunition. I think that you have arrived at a point in your investigation where you have confidence in the 140-grain bullet, but lack that confidence in the 160-grain bullet that is desirable. Under the circumstances you would be foolish not to use the former bullet. What I should advise is for you to get a set of reloading tools, and load your own ammunition, using the 40-grain Western open-point bullet, seated as far out of the neck of the case as the length of the magazine will permit, with a powder charge of 42.5 grains weight of du Pont No. 15½ powder. Probably this will give a muzzle velocity of about 2,650 f. s. in the 22-inch barrel of your rifle.

If you do not care to reload, then you can use the Western factory cartridge with 140-grain bullet, but I should advise reloading, as in the long run it will be cheaper and more satisfactory, and you will get a lot of pleasure from it, and also you will learn a lot. All the reloading tools are good—Ideal, Bond, and B. & M.—but if you have not already obtained a reloading tool let me suggest the new Bond straight-line tool. I have just obtained one of these, and I like it very much. You want it for the 6.5-mm. Mannlicher-Schoenauer cartridge, of course, to seat either the 140- or 160-grain bullet, because you may want to experiment, and it should have a resizing die of the correct size to resize the necks of fired cases so that the factory-jacketed bullets will be friction-tight. Also, you will need an ideal powder-measure, and a Fairbanks powder-scales. That is all you need, as you are not going to make your own bullets. But, of course, you also have to have some acid and the jars to clean your fired cases. My method of cleaning these is fully described in Matter's new book, "Handloading Ammunition." I should advise your getting a copy of this book, as it will help you a lot and give you a whole lot of information. The new Ideal Handbook also will be out in a couple of months, and when you see it advertised I should advise your sending for a copy of it also. This handbook has been entirely rewritten and modernized.

#### A CENTER-FIRE .22 LOAD

CAN you give me some advice as to loads for my .22 W. C. F.? The barrel is ".40-carbon 3½ per cent nickel," and the rifle is a Bullard single-shot. This action, as you know, is not a particularly strong one, but I imagine it would stand a fair charge of some of the smokeless powders.

I should also like data as to loads with Lesmok and Peters F. F. G. semi-smokeless, as I have a quantity of these brands and think they would work with good results in this rifle. I have found the high-pressure, smokeless powders and primers very hard on the small calibers, and wish you would enlighten me on this point; that is, as to what powder and what primer would give the least erosion.—H. H. B.

Answer (by Colonel Whelen). Evidently your rifle has a Winchester .22 W. C. F. center-fire barrel, probably placed on the breech-action by some gunsmith in or around Boston. The analysis of the steel corresponds exactly with the nickel-steel used in Winchester barrels.

The Lyman Gun Sight Corporation, Middlefield, Conn., make a bullet mould to cast Ideal Bullet No. 228151 for this cartridge. I think that the bullet ought to be cast of an alloy of about 1 part tin to 16 parts lead, and should be sized to .228 inch; case-neck should also be carefully resized to .228 inch diameter inside, and the mouth of the case should be chamfered so it will not scrape the bullet as the latter is seated. I should say use a powder charge of about 12 grains of F. F. G. Kings (Peters) semi-smokeless powder, or enough of this powder to fill the case to within about 1/32 inch of the base of the bullet. Do not crush the powder. Seat the bullet with only several hands projecting out of the case, so that the point and some of the bearing of the bullet will extend up into the rifling.

The above load will do for a starter. If it does not work well, you are in for some experimenting. The whole history of this cartridge shows that it is extremely sensitive to little differences in amount of powder and in alloy of bullet. Sometimes a little change in one or the other of these will make all the difference in the world in accuracy. If you don't get results with the above try a softer alloy or slightly less powder; also measure the groove diameter of the bore of the rifle, and try sizing the bullets just .0005 inch larger than groove diameter. All indications also point to the fact that Kings semi-smokeless F. F. G. powder should give the best results. Modern smokeless powders may give much better accuracy for a few rounds, but would probably ruin the bore if long persisted in.

Use the proper size primer of the same make as the cases you are using. This will probably be a No. 1 or 1 1/4, or a No. 6 1/2 primer, depending on the make. I do not believe that any of the cartridge companies make a black-powder primer in this size any more, all being intended for either black or smokeless powder. No primers are erosive, nor is semi-smokeless powder in the least erosive. But all center-fire primers are corrosive to exactly the same extent, a non-corrosive center-fire primer not having been developed as yet. But primer corrosion need not be feared at all, because if the bore be cleaned with water after firing all the primer salt will be dissolved. This is true of any of our primers. Noncorrosive rim-fire priming mixture recently advertised is simply for the man who is too lazy to clean with water.

I should not advise using Lesmok powder at all. This is dangerous powder, the du Pont Company strongly advising against its use by individuals or any one not equipped with a pressure gun. Besides, Lesmok powder is liable to cause corrosion of itself. Better stick to the semi-smokeless and scrap that Lesmok powder for safety sake.

The .22 W. C. F. is a cranky little brute. It takes a lot of humorizing to make it shoot with fine accuracy. But by experimenting you ought to get good results, and when you do you will find that caliber a mighty useful one.

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#### WINCHESTER MODELS 56 AND 57

AM ANOTHER bug, and would like to be sure of a few things, so am asking fool questions.

I haven't shot the new Winchester 56 or 57 yet, so I do not know much about them; but how do they compare with the 52 for

accuracy? How much more accurate are they than the Model 90 Winchester?

I want as accurate a hunting rifle as I can get. The 56 seems to be what I am looking for, but the barrel is only 22 inches. Isn't that much too short? Is the chamber and twist different in a gun for shorts only and one for long ranges?

What ought to be a good group, say at 50 to 75 yards, for Models 90 and 56, using the best grade of ammunition—N. R. A. or 200 Peters? I certainly will appreciate all the dope you can give me on the .22.—S. E. B.

Answer (by Colonel Whelen). The Models 56 and 57 Winchester rifles are most excellent weapons. In fact, I should say that they, particularly the Model 57, are the best .22 hunting rifles on the market.

I do not believe that there is any difference in the accuracy of these two rifles, and of the Winchester Model 52, when the three rifles are shot from a machine-rest. The Models 56 and 57 are bored, rifled, chambered, and breeched up in exactly the same way and with exactly the same care as in the case of the Model 52. But there is a little difference in the attained accuracy when these three rifles are shot by a skilled rifle shot. Such a man can shoot the Model 52 quite a little more accurately than he can shoot the other makes, because the Model 52 is heavier, holds steadier, and on the little jerks on the trigger that sometimes come to the best of us the Model 52 will not move off as far as with the lighter rifles. Also if all three rifles have metallic sights, then such a shot will do the best shooting with the Model 52, because the sights are farther apart, and little errors in aim do not amount to so much on the target. Likewise, a good shot will do better shooting with the Model 57 than he will with the Model 56, because the former has a gun-sling which is a very great help to steady holding, and because the sights on the Model 57 are very much farther apart than on the Model 56.

The length of barrel does not make much difference in accuracy except as above. Given two barrels, 28 inches and 22 inches long in a machine-rest, all other conditions the same, there would probably not be any difference in their accuracy. In fact, if the ammunition were old or deficient in lubricant, the 22-inch barrel would probably shoot the best.

The Model 90 Winchester, on the other hand, will probably not be quite as accurate as the above rifles. This is because that model can not be made to breech up as tight as the bolt-action models can, and breeching up tight on the head of the cartridge insures fine ignition and hence fine accuracy in a .22-caliber rifle. And also any take-down rifle will never shoot quite so well as a solid-frame rifle, and usually a rifle with two-piece stock will not shoot as well as one with a one-piece stock.

In the accuracy of any rifle, the sights must be considered. With all iron sights there is a certain error of aim. This is smallest with a peep rear sight with cup disk and with a dead-black front sight, and is largest with open sights.

Given first-class sights, peep rear with cup disk, and flat-top, dead-black post front sight, I imagine that the best guess I could make of the average accuracy of these particular rifles at 50 yards, shot from muzzle and elbow rest by an expert shot, after the particular make of ammunition doing best in that particular rifle had been found, would be about as follows: Winchester Model 52, 1 inch; Winchester Model 57, 1.10 inches; Winchester Model 90, 1.50 inches.

The Winchester Model 56 is not included, because it has open sights, and if you put on peep-sights you practically turn it into a Model 57.

Please also note the following memorandum on ammunition: This matter of the proper selection of ammunition to fit the particular rifle, as you will see from this memorandum, is a very important matter if you want to get the best out of a .22-caliber rifle.

#### .22-CALIBER AMMUNITION AND RIFLES

The ammunition to use in .22-caliber small-bore rifles is the .22-caliber long rifle cartridge loaded with Lesmok or semi-smokeless powder, or else the same cartridge loaded with smokeless powder and primed with Kleancore or other new non-corrosive primer. Cartridges loaded with smokeless powder and the old-type priming mixture should not be used, as these will gradually corrode the bore despite the most careful cleaning. The .22 short cartridge should not be used in rifles chambered for the .22 long rifle cartridge, as their use tends to erode the chamber. The .22-caliber long cartridge is inferior in accuracy and power.

If one desires to get the utmost in accuracy and power from his small-bore rifle, he must test it for accuracy with a number of makes and lots of .22 long rifle ammunition as above in order to determine what particular make and lot gives the most accurate results. Every individual rifle seems to be a law unto itself in this respect, and we cannot say that a rifle of such and such a make will do the best work with such and such ammunition until we have actually tried it on the target. For example, one Winchester rifle may do fine work with a certain lot of Winchester ammunition, and another rifle of the same make may make groups as large as 6 inches at 100 yards with the same ammunition, and yet this latter rifle may make splendid groups with some other make and lot of ammunition. Moreover, one lot of a certain make of ammunition may do finely in a certain rifle, and another lot of exactly the same ammunition may do very poorly in that particular rifle, but very excellently in some other rifle. By a lot of ammunition we mean ammunition from the same wooden case; that is, case of 5,000 or 10,000 rounds, according to the way the factory packs it. This insures that the cartridges are all made on one day by one machine and loaded with one lot of powder.

When the proper ammunition has been found for a particular rifle, that rifle, if of standard make, should give groups of about 1 inch in diameter at 50 yards, or 2 1/4 to 2 1/2 inches in diameter at 100 yards. We do not know of any .22-caliber rifle, whether by a large factory or a private maker, that will average much better than this. Twenty-two-caliber rifles seem to shoot best on warm, damp summer days, and on such an occasion a certain rifle, with ammunition carefully fitted to it, may give a long number of consecutive shots well into the ten-ring of the small-bore targets at the various ranges.

The moral of this is that the small-bore rifleman, to be successful, must select the best ammunition for his particular rifle. Also that a rifle that does not shoot well with a certain make of ammunition should not be condemned therefor, for it may do splendid work with some other make, or even with some other lot of that same make.

## ABOUT 7 MM. RIFLE

I HAVE received your reply to my letter regarding Mauser actions and 7-mm. barrels, for which I thank you. As I am not familiar with the 7-mm., I will try your patience once more.

The war-time carbines, of which I have three, are all in fine order, barrels and all. They have ball handles, turned down much more than the Springfield, and work very smoothly. The point is, just what can I do with such a rifle as compared with a Springfield .30-06?

I note that you think the 7-mm. 139 Western Cartridge Co. would give excessive pressure in a tight chamber. Is there no middle course? Suppose I have a tight-chambered barrel made. Can I get any high velocity with a killing bullet, say of 175 grains weight, remembering that my largest game is mule deer?

Using the Mauser action would save the cost of the Springfield action, and I can perhaps get the rifle considerably lighter.

The stocking does not disturb me, provided I can get a piece of wood, as I have stocked a Springfield since you wrote about stocks, and my own stock suits me better than one of Barney Worthen's, whom I have known very well for years.

If this will make a mule-deer gun, would it be asking you too much to write the specification for it? I was, as you know, assistant chief inspector of small arms at the Winchester plant during the first eight months of the war, and afterwards overseas, and feel that I know guns quite well. Nevertheless, I much prefer your judgment to my own.

I recently read that you had a 7-mm. made. Won't you please tell me about it?—C. F. A.

**A n s w e r** (by Colonel Whelen). The Western Cartridge Co. ammunition with 139-grain open-point bullet was designed primarily for use in the 7-mm. German and Spanish Mauser rifles. These rifles have a slightly larger chamber than our usual American 7-mm. rifles are cut with. In these Mauser rifles, which have 30-inch barrels, this cartridge gives a muzzle velocity of 3,000 f. s. In a similar barrel, 24 inches long, the cartridge will give a muzzle velocity of about 2,850 f. s. The breech pressure in these German and Spanish barrels is about 50,000 pounds per square inch. I have not tried this cartridge in German or Spanish rifles, so cannot say as to its accuracy, but Western tells me that its accuracy is very good. The only American firm I know of making a barrel with a chamber correct for this cartridge is the Niedner Rifle Corporation, Wowagiac, Mich. They make a 7-mm. barrel specially for this ammunition, with a chamber slightly tighter than the German and Spanish chambers, but perfectly safe with this ammunition. I imagine that one of these barrels in your Mauser action, with Lyman No. 48 rear sight with cup disk, and with gold-bead front sight blackened for target shooting, would, in the hands of a man accustomed to fine rest shooting, give about 2 1/4- to 3 1/4-inch groups at 100 yards, or proportionately at other ranges, in a 24-inch barrel slightly lighter than the standard .30 Springfield service barrel. Such a rifle with the Mauser action and usual sporting stock would weigh about 8 1/4 pounds, and the recoil with this cartridge would be approximately the same as that given by the service Springfield rifle with the 150-grain service ammunition. It should be a very excellent rifle for mule deer, killing them promptly, except that I think that occasionally you might lose a deer shot quartering forward through the hip, due to the bullet not penetrating up into the vitals. On the other

hand, paunch shots ought to be almost instantly fatal.

Now, we will come to the slightly more accurate 7-mm. rifle, and perhaps I cannot do better than to describe my own latest 7-mm. rifle, which was made with a Springfield breech action, but what I have to say about it would apply equally to your rifle with one of your Mauser actions and with your own stock. This rifle of mine happens to be that one illustrated in the Griffin & Howe advertisement in the February issue of THE AMERICAN RIFLEMAN. This rifle was made with a Niedner 25-inch barrel of approximately the same outside dimensions as the service barrel on the .30-caliber Springfield rifle, and the complete rifle as illustrated, minus the sling, weighs 8 3/4 pounds. The groove diameter of the barrel is .285 inch (which is standard whatever the chamber), and the rifling has a turn of one turn in 9 inches. It is chambered with the Niedner tight chamber, which is correct for hand-loaded ammunition, or with the Western Cartridge Co. ammunition loaded with 175-grain soft-point ammunition, which gives very much less breech pressure than their 139-grain ammunition. The recoil of this rifle with the 175-grain ammunition is very appreciably less than the recoil of the .30-caliber Springfield service rifle with 150-grain ammunition. The appreciable recoil is also appreciably diminished by the very excellent stock made by Griffin & Howe. I should say that the recoil is about the same as is experienced with a Winchester .30-30 rifle.

It happens that I have not yet shot this 7-mm. rifle of mine, due to conditions of weather and ground which have prevented my using my rifle range for the past three months. But I have thoroughly tested four almost exactly similar rifles previously made for friends of mine, and here is about what may be expected from this rifle:

With the Western 175-grain soft-point ammunition it should give about 2- to 2 1/4-inch groups at 100 yards and proportionately at other ranges. This ammunition has a muzzle velocity in 26-inch barrel of about 2,300 f. s. With the same bullet, hand-loaded, projecting about 1/4 inch farther from the case than in the factory load, and sufficient of du Pont No. 17 1/2 powder to give m. v. 2,350 f. s., it should give about 1 1/2- to 2-inch groups at 100 yards. With a hand load consisting of the 139-grain Western open-point bullet and sufficient du Pont No. 17 1/2 powder to give about m. v. 2,700 f. s., it should give about 2 1/4- to 2 1/2-inch groups at 100 yards. This load would give much less breech pressure than the standard Western factory 139-grain cartridge, and hence would be safe in this tightly chambered rifle. With the 139-grain open-point bullet and 17 grains of du Pont No. 80 powder, m. v. about 1,600 f. s., the rifle should give about 2- to 2 1/4-inch groups at 100 yards, and this cartridge should be excellent for such game as beaver, otter, fox, etc. The open-point bullet would not open up at this velocity on game, but the slightly flattened point should give good killing power without spoiling the skins. With the 139-grain full-jacketed sharp-point Western bullet and a charge of 17 grains of du Pont No. 80 powder, m. v. about 1,600 f. s., the rifle should give 1 1/4- to 2-inch groups at 100 yards, and this load should shoot through the body of a grouse without spoiling any more meat than a .22-caliber bullet would. Of course, the different loads will require different sight adjustment, except the last two loads, for which the sight adjustment should be the same.

I expect to use the cartridge with 175-grain soft-point Western Lubaloy bullet for all big game, and I expect this cartridge to

be amply powerful for any large game in this country. I think that this bullet, either in the Western factory 175-grain cartridge or in a hand load will be found to be ideal for mule deer. In most cases it will kill just as promptly as the 139-grain Western factory load, both loads having really excessive power for such game. But in most cases it will not spoil nearly as much meat as will the 139-grain Western cartridge. I should expect that on mule deer it would be much more reliable on a stern shot through the hips than the 139-grain cartridge, but on paunch shots I should not expect it to kill as quickly as the 139-grain load, and one might occasionally lose a deer on a paunch shot with the 175-grain bullet. Also, on a long shot, the 175-grain load of course has not the flat trajectory of the 139-grain cartridge, and one might expect an occasional miss due to a wrong estimate of the range. But if this cartridge did not exactly suit me for any particular conditions of mule deer I could readily turn to the 139-grain bullet hand-loaded to 2,700 f. s., and get approximately the same results as from the 139-grain Western factory cartridge, the 125 f. s. less muzzle velocity not being appreciable from a practical point of view. I might add that this 175-grain Western soft-point bullet is of exactly the same design as the Western .30-caliber 220-grain soft-point bullet with which Stewart Edward White and Leslie Simpson did such wonderful work on lion and other African game recently, and I believe that it is perhaps the best form of game bullet for velocities running from 2,250 f. s. to 2,400 f. s.

In regard to the comparison between the 7-mm. rifle and .30-06 rifles, considering the latter rifles to be used with modern hunting ammunition, 180- to 220-grain bullets. You can, of course, expect the .30-06 to be much more powerful, and this extra power will show up perhaps in quicker kills on such game as moose, elk, and bear, but on mule deer the .30-06 will not give any quicker kills (because the 7-mm. has ample power) but will give heavier wounds and spoil more meat. Both rifles have practically the same accuracy, considering the 7 mm. at 8 1/4 pounds and the .40-06 at 8 1/4 pounds (difference in weight being in thickness of barrel). I think there is no doubt that the .30-06 is the more powerful of the two rifles, but contend that the 7 mm. has ample power for the use to which you intend to put it, and with a given accuracy; you can get that accuracy with about half a pound less weight in 7 mm. than you can in .30-06. I have myself chosen the 7 mm. because it seems to me to be a better all-around rifle for both big and small game. For example, in the .30-06 rifle it is almost impossible to get a really good reduced load which will surely shoot through the body of a grouse and not spoil quite a lot of the breast for the table. Except when you use the 139-grain Western cartridge, you will find that an 8 1/4-pound 7-mm. rifle, properly stocked, will have very appreciably less recoil than an 8 1/4-pound .30-06 rifle.

I think that from the above you can see just about what you can expect from any kind of a 7-mm. rifle. My own advice would be to choose a 7 mm. with the lightly chambered Niedner barrel—barrel to be just a trifle lighter than the standard .30-caliber Springfield service barrel, 24 inches long, to make the complete rifle weigh not more than 8 1/4 pounds—and to use the 175-grain soft-point factory cartridge for deer, and the other cartridges or hand loads as above for other game. If the 175-grain cartridge does not give you quite the results you want on deer, then you can hand load the 139-grain open-point bullet to m. v. 2,700 f. s. But I think that you will find the 175-grain

cartridge ideal for your purpose in such a rifle.

\* \* \*

### PITTING IN THE SINGLE ACTION

FOR several years I had a single-action Colt in which I used FFG black powder exclusively. I shot, I think, not over 300 cartridges loaded with 38 grains of powder and 243-grain bullet. I shot, perhaps, an equal or slightly greater number loaded with 28 grains of powder and 184-grain bullet and a number of odd intermediate loads before settling on the 28-184 load as standard. And I noticed that the under side of the top strap of the frame of the gun, just above the opening between cylinder and barrel, had been eroded in small oval-shaped pits to a depth approaching a sixty-fourth of an inch, I should say.

I have recently shot a .38 Army Special Colt one hundred or more times with 20 grains of FFG black and 165-grain bullet. And this same erosion is just beginning to appear at the under side of the strap, and is very noticeable in the angle where the little hub at the front end of the cylinder joins the forward face of the cylinder. The metal in this angle is finely pitted, having a crystalline appearance. I have never observed this erosion in guns in which smokeless powder was mainly used, though it may have existed and escaped my attention.

From my very limited knowledge of such matters I have reached the opinion that the above erosion is due to the fine particles of solid matter from the black-powder residue impinging upon the metal, when driven by the high and sustained pressures obtained in heavy black-powder loads. It would seem to me that smokeless-powder gases, with their comparatively slight amount of solid residue, should give nothing to speak of in the way of this erosion. And my limited experience appears to bear out this theory.

Are my deductions in this matter correct; and, if so, is there no way in which black powder can be used in heavy or fairly heavy charges without causing this seemingly rapid erosion? I find black powder desirable to use under some conditions. If unchecked how far is this erosion likely to go?

One more point. Regarding the American powder which was used at the Arsenal for reduced loads in .30-06 ammunition. When I visited the Arsenal last fall you told me that you used this powder interchangeably with No. 80, with the same identical resulting pressures and velocities. By "interchangeably" I judged you mean bulk-for-bulk, with no change in the volume of powder thrown by the machine. Now, this American powder which I have appears to be somewhat lighter in weight than No. 80, but I have been using it with the same setting of my Bond powder measure as for No. 80, not wishing to take chances. However, I believe I am getting less pressure and velocity than with No. 80; and that you must have meant a weight-for-weight substitution. Is this correct? With the proper method of substitution will this American powder give the same pressures for all loads and at all ranges as No. 80?—L. J. H.

Answer (by Major Hatcher). The pitting of your single-action Colt is due to the cause that you deduce in your letter, namely, the impact of the fine solid particles of material driven out at great force from the joint between the cylinder.

I do not think the erosion will go far enough to do any harm other than injuring

the appearance of the gun somewhat to a critical examination.

Regarding the American Powder Mills gallery powder, our experience with this has been that it is approximately interchangeable with No. 80, weight for weight. As an example: We got the same results in .30-caliber reduced loads with 10.5 grains of this powder as we got with 10 grains of No. 80. Of course, this shows a slight variation between the two powders, but the same variation might be found between two lots of the same powder; so I think you will be perfectly safe to use this powder weight for weight with No. 80.

\* \* \*

### ABOUT THE BISLEY COLT

I HAVE a Bisley Model Colt .45 Colt caliber that was manufactured in 1906. Is this revolver safe for all smokeless and black powder factory-loaded ammunition now on the market, including the Remington heavy black powder load? Are smokeless or black powder revolver cartridges fifteen years old or older dangerous to use in Colt or Smith & Wesson revolvers? Do you consider one good cleaning with Chloroil sufficient for a revolver that may not be used again for six months, provided, of course, that a good gun grease is used after the cleaning?—W. H. I.

Answer (by Major Hatcher). The Bisley Model Colt manufactured in 1906 is supposed to be safe for all regular factory-loaded .45-caliber ammunition now being produced.

There is some danger in using black-powder cartridges that are very old, as the powder sometimes cakes in them and may give rise to high pressures. Generally, smokeless-powder cartridges get weaker when they begin to deteriorate, so that the only thing in using very old smokeless cartridges would be the chance of having the bullets stick in the barrel.

I do consider that one good cleaning with any good solvent having potassium chloride would be sufficient for a revolver that is not to be used again for six months, provided the gun is wiped thoroughly dry after the solvent is used and then coated with a light coating of grease.

\* \* \*

PLEASE tell me how I can obtain War Department Document No. 1050, "Pistol Marksmanship."—C. A. W.

Answer (by Major Hatcher). You can obtain War Department Document No. 1050, "Pistol Marksmanship," from the Superintendent of Documents, Government Printing Office, Washington, D. C.

I would suggest that you forward twenty-five cents in coin to the above-mentioned address with a request for this document. I do not know the exact price, but think the sum mentioned will cover it.

\* \* \*

### ANTIMONY ALLOY O. K.

KINDLY advise me as to what you think of using lead containing 7 per cent antimony for making bullets for reloading .38 Smith & Wesson special cartridges. This lead seems very hard, and I am wondering if it might damage the barrel in any way. A friend of mine gave me about 40 pounds of this metal, and I would like to use it, provided it would not injure the gun in any way.—L. A. M.

Answer (by Major Hatcher). The mixture you have of 93 per cent lead and 7 per cent

antimony ought to work all right for reloading the .38 Smith & Wesson cartridges. It is somewhat harder, to be sure, than the ordinary mixture of 1 part tin to 15 parts lead, but it is nothing like as hard as the lead used in the core of the Springfield rifle bullet which is now being manufactured at Frankford. This core is made of lead containing 14 per cent of antimony.

\* \* \*

### DIAMETER OF .44-40

WHAT is the exact inside diameter of a .44-40 revolver barrel? Is this measurement taken from the lands or from the bottom of the rifle?—G. C. K.

Answer (by Major Hatcher). The exact diameter across the groove of the .44-40 revolver as now manufactured by Colt's Patent Fire Arms Co. is .427. There are slight variations of a thousandth of an inch more or less between individual guns. Also, the .44-40 used to be made, years ago, to a diameter of .424; so you will see that it depends on the gun you have, and any measurements given in this way cannot be guaranteed to be exactly those of any particular gun.

\* \* \*

### IT'S WORTH \$12.50

I HAVE an old four-barrel tip-up .22 caliber marked on the frame "C. Sharps—1859." Firing-pin rotates on a hub on the hammer. This gun is in working order, and the four barrels are fairly good. Request that you advise probable value of this gun as a relic.—R. McB. M.

Answer (by Major Hatcher). Regarding your old four-barrel Sharps pistol, I cannot tell you the exact price of this gun, because prices for old arms vary just as prices on the stock exchange do, according to supply and demand; but I can tell you that the latest price I was able to find in a catalogue for one these guns is \$12.50.

\* \* \*

### RIMLESS WILL NOT WORK

I HAVE a loading tool, several hundred primers and bullets, and plenty of cases, (rimless), fitting the Smith & Wesson Model 1917, service revolver, caliber .45. What I wish to know is, will these bullets and cases fit the Webley-Fosbery .455, or will they be too small? I would like to possess one of these guns, partly for the novelty, and partly because I like the idea of being able to shoot both big and small calibers in the same gun. I feel, however, that unless I could use my present stock of components the expense would be unnecessarily heavy, keeping up two revolvers of different calibers.—J. A. B.

Answer (by Major Hatcher). Your .45-caliber rimless cases will not work in the Webley-Fosbery. This is made for the .455 Webley, Mark II, and does not have the stop-shoulder in the cylinder at the right place for the .45 automatic case. You understand, of course, that the .455 cartridge is manufactured in this country. As far as shooting two calibers in the same gun is concerned, this does not necessarily require the Webley-Fosbery, which was really, in my opinion, obsolete twenty years ago. All the others of the excellent Webley line can be fitted with the .22 adapter, or you can buy the excellent full-size military .22 Webley revolver if you wish.

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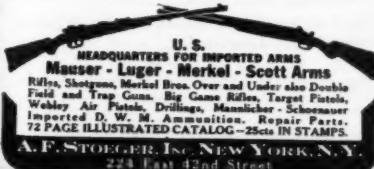
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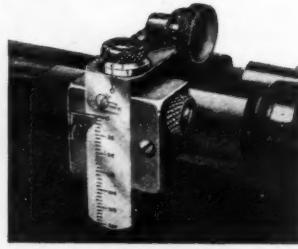
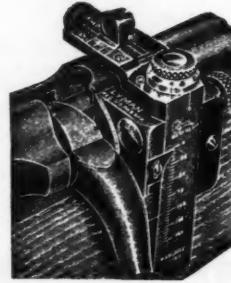
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This letter is to express my enthusiasm for the service rendered us by your Western products. We never had the slightest trouble. They gave every one of us who used them one hundred percent satisfaction. And incidentally the bully good way in which they were packed was no small source of satisfaction and contributed largely to the comfort and success of an expedition which took us and our Western equipment within 750 miles of the North Pole.

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**A** REVOLVER, radio, automobile or golf club is good, bad or mediocre in exact proportion to the success of the maker in producing a scientifically correct, as well as a "practical," device.

The perfect "balance" of the Smith & Wesson Revolver is an eminent example of correct engineering, and one of the fundamental reasons for its superior precision.

Compare the absolute steadiness of a Smith & Wesson, when the hammer falls with the accuracy-destroying-movement of improperly balanced, though heavier, revolvers. You can readily test this by "snapping" the empty revolver while resting the nail of the first finger of the left hand upon the front sight.

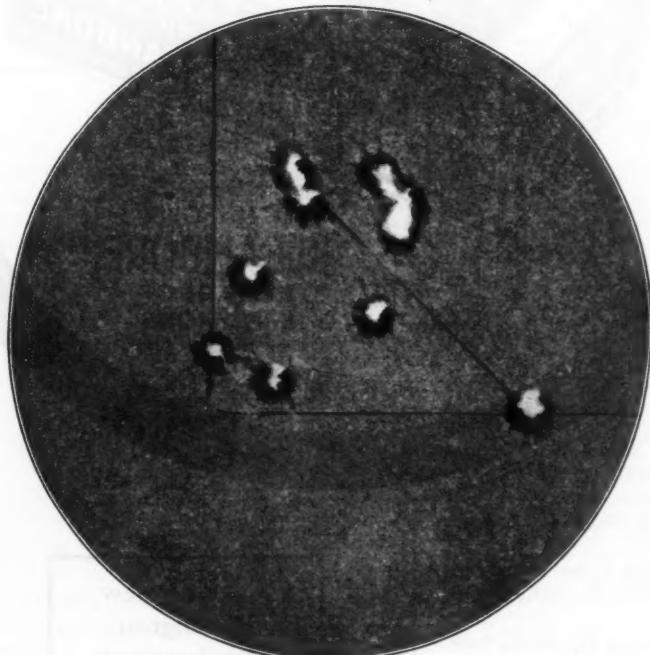
It is but logical to expect finer shooting from an Arm made to a *standard* based entirely upon correct engineering principles, involving the best possible workmanship and highest class materials.

Why not determine your real ability by shooting a revolver designed and built to give maximum results?

*Our Descriptive Booklet J may interest you—it will be sent free upon request*

**SMITH & WESSON**  
SPRINGFIELD, MASS., U. S. A.  
THE REVOLVER MANUFACTURER

# Windy Weather Shooting with the 1927 International Rifle Ammunition



TEN SHOTS AT 300 METERS

The above target was made with a Mann barrel in the official test of the 1927 International rifle ammunition which is loaded with 36.4 grains of Hercules HiVel powder and the Frankford Arsenal 172-grain boat-tail bullet. It is a typical HiVel target. The circle drawn around the group represents the size of the 10-ring of the International free-rifle target.

had the groups been centered therein. When the new match ammunition was completed and ready for turning into store, a test of 36 targets of 10 shots each was fired. The average figure of merit of this shooting was 2.05. The smallest target had a mean figure of merit of 1.45, and nine of the shots could have been covered by a half dollar.

The 1927 Frankford cartridge is loaded with 36.4 grains of Hercules HiVel powder and the 172-grain boat-tail bullet. When fired in the 28-inch International rifles it gives a mean instrumental velocity at 78 feet of 2203 f.s. In the 24-inch barrel it develops a mean instrumental velocity at 78 feet of 2108 f.s., with a mean pressure of only 28,000 pounds per square inch. Ammunition such as this, which consistently shoots into less than one minute of angle, is the best possible insurance of the success of an American International rifle team.

THE official test of the 1927 International rifle ammunition was held on a windy day. Flags at the target indicated a variable wind of twenty-five to forty miles per hour. Such weather conditions are unfavorable to groups of a minimum size but they provided the exact conditions necessary to a real test of the low velocity, low recoil, easy to shoot, International free rifle charge. The 1927 test proved conclusively that the ".30-30" load in the Springfield is a charge that will make accurate targets under any conditions the rifleman is likely to experience in match shooting.

In the test itself the mean figure of merit, the average of the extreme vertical and extreme horizontal, was 2.53 inches. Samples of the 1925 International match ammunition fired alternately with the 1927 International ammunition gave a figure of merit of 3.39, proving conclusively that this year's ammunition is much better even than that of 1925, which gave the phenomenal average in its official test of 2.11 inches.

In preliminary tests, the 1927 ammunition gave 66 targets of 10 shots each at 300 meters, which produced an average figure of merit of 2.09 inches, and the largest group diameter was 3½ inches, showing that every shot would have stayed in the 10-ring of the International target.

**HERCULES POWDER COMPANY**  
(INCORPORATED)

908 King Street

Wilmington      Delaware



Barrel sawed lengthwise and photographed after shooting 30,000 rounds of ordinary ammunition—barrel carefully cleaned every time it was used. Accuracy fell off after 5,000 rounds.



Barrel sawed lengthwise and photographed after shooting 3,000 rounds of REMINGTON KLEANBORE CARTRIDGES. Cleaning unnecessary. Accuracy unimpaired.



**A MIRACLE CARTRIDGE  
NO MORE RIFLE CLEANING—  
GET THE KLEANBORE HABIT**

**THROW away your cleaning rod. Shoot** your rifle or pistol as much as you like and forget the fear of rust. The new REMINGTON KLEANBORE CARTRIDGES positively prevent rust, corrosion, and pitting and practically eliminate erosion in the bore of rifle or pistol barrels.

Just clean the barrel once with boiling water, dry it, and then shoot nothing but REMINGTON KLEANBORE CARTRIDGES. You will never have to clean the inside again.

KLEANBORE CARTRIDGES leave a protective film in the bore and prolong the life and accuracy of the barrel. They have been exhaustively tried and tested, and are approved by the world's foremost rifle and pistol shots.

Because of the tremendous popularity of this marvelous new ammunition, it may be copied. Avoid all imitations. Get the real REMINGTON KLEANBORE CARTRIDGES in the green box. Your dealer has them in .22 short, long, and long-rifle. They cost no more than ordinary cartridges. Buy some today and write us for a circular that tells more about this remarkable ammunition.

REMINGTON ARMS COMPANY, INC.  
25 Broadway      Established 1816      New York City  
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*Remington*

**Another new  
Remington  
Development  
Shur Shot Shells  
Sure Safe  
Speedy**

Moderately-priced smokeless shotgun shells with high-priced quality. Shoot them at the traps or in the field. Ask your dealer about them.

# KLEANBORE CARTRIDGES

Rifles

Ammunition

Shotguns

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Cash Registers

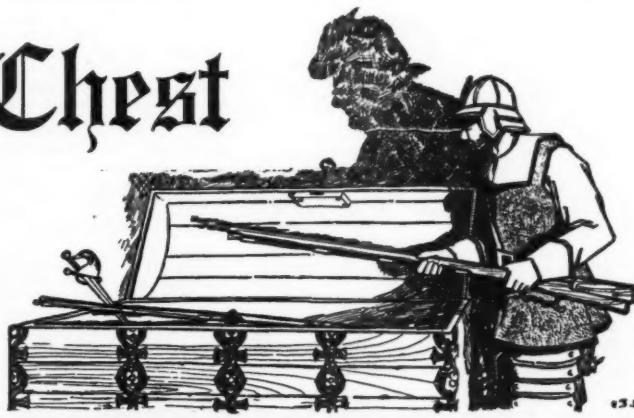
# The Arms Chest

## READ TERMS BEFORE SENDING ORDER

THE uniformly excellent returns from advertisements appearing in the classified columns of THE AMERICAN RIFLEMAN make it a most satisfactory and productive medium for the disposal of surplus shooting equipment, or the acquisition of special types of firearms.

**Free Insertions.** Each subscriber is entitled to one insertion of ten words when his subscription is paid for one year. It is necessary only to write or print the text plainly on one side of the paper only, noting thereon the date subscription was paid. These advertisements will appear in the first available issue and should be in publication office three weeks prior to the following publication date. All words in excess of 10 must be paid for at the rate of 10 cents a word. Cash MUST accompany order.

**Paid Insertions.** Non-subscribers or those who have already made use of the subscriber's privilege may take advantage of these columns at a cost of 10 cents a word. No advertisement for less than \$1.00 accepted. They should be in the publication office three weeks prior to the time appearance is desired.



**WANTED—American Firearms.** Hunt up your discarded firearms. Have your friends do likewise. In every family there are firearms discarded as being obsolete. Send a list of what you or your friends have. If the pieces are what I want, I will offer top prices. S. Harold Croft, Bala-Cynwyd P. O., Pa. 12-27

**COLLECTION OF MODERN WEAPONS** for sale. Write for list. Sidney Maranov, 242 W. 38th St., New York City. 6-27

**HARRIS TWEED**—Handwoven, High-class Sports materials, and Aristocrat of all outdoor wear, direct from makers. **SUIT-LENGTHS** by post. \$2.00 per yard. Samples free. Newall, 319 Stornoway, Scotland. 12-27

**WHILE THEY LAST**—Genuine Mauser Repeating Rifle, Waffenfabrik Oberndorf, in factory grease, 7 mm., famous for accuracy and killing power, \$35. Also 8 and 9 mm., \$35. Over and Under, 3-barrel guns. Send for bargain list. Fred'k Hollender, 1157 Morris Ave., Bronx, N. Y. 7-27

**HANDLOADING AMMUNITION**, by J. R. Mattern. A text-book covering all phases of the loading and reloading of ammunition for rifles and revolvers. 380 pages. 117 original illustrations. Voluminous tables of ballistics and 50 pages of load tables for all modern cartridges. A technical discussion on each popular cartridge. Complete instruction for loading to duplicate factory loads, short-range and small-game loads, big-game cartridges and loads to obtain extreme accuracy at all ranges. Everything is original, there is no reprinting of catalog dope. Intensely practical. No shooter should be without it, whether a handloader or not. Bound in buckram. Price, \$3.00 postpaid. Small Arms Technical Publishing Company, Box 18, Marshallton, Delaware. 5-27

**"FIX YORE FENCES"**—Barring a miracle, no gun game by mail after June 1st. Till then you can deduct 30 per cent from every cash sale from my list. I aim to trade to the bitter end. Then you will have to take what others offer, pay what they ask and say PLEASE. Shift with the House of SHIP, North Woodstock, N. H. 5-27

**FOR SALE**—New and second-hand rifles, pistols, shotguns. Write exactly what you want. Quote you condition and price by mail. No catalogue. Hyman's, 1705 Larimer St., Denver, Colo. 5-27

**WANTED**—Bound or copies, "The Rifle," 1885-1886; "Shooting and Fishing," and "Arms and the Man," 1904-1922. W. B. Pape, 428 Farmington Ave., Waterbury, Connecticut. 5-27

**SELL**—15,000 U. M. C. .22 Short Cartridges, old stock, good condition, \$2 per thousand. Also two Krag Carbines. **WANT**—.25 Remington Express. Earl Price, Lodi, Wis. 5-27

**WANTED**—Krag and .30-06 Cartridges. F. L. Armstrong, Ransom, Kans. 5-27

**SALE**—Rem.-Hepburn .32-40 Swiss Butt P. G., 30 cartridges, fine, \$20. J. K. Rich, Cato, N. Y. 5-27

**REDUCING EQUIPMENT**—Heavy barrels, .32-40 Stevens, .38-40 Paterson, good shape, accurate, fit 44½ actions, \$10 each. 44½ actions, good, \$8 each. 25-21 44½ Stevens Niedner, like new, accurate, Lyman peep, \$25. 350-25-21 empties, like new, five cents each. Information and list for two cents. Satisfaction or money back. Alfred Loetscher, Rt. 1, Sibley, Iowa. 5-27

**FOR SALE**—Winchester Trap fore-ends, extra barrel, \$82. Tournament stock, \$17. E. D. Bray, 521 7th St. S. E., Mason City, Iowa. 5-27

**WANTED**—.45-75 Winchester, Model 1876, in good condition, priced right. Paul Jameson, Aukum, Calif. 5-27

**SELL OR TRADE**—Two good Buffalo Robes, small Colt C. & B. Pistol with stage hold-up engraved cylinder and a good Springfield. H. L. Phillips, Norwood, N. Y. (St. Lawrence County). 5-27

**FOR SALE**—Colt S. A. .44 Special, New Cylinder, wood stock, 5½-inch barrel, \$22. Winchester Lever-Action Shotgun, 12-gauge, \$15. Colt C. & B. .31-caliber, \$8. **WANTED**—Colt or Reising .22 Automatic. Powder Scales, stamped envelope for reply. Frank C. Fortner, Big Sandy, Mont. 5-27

**WANTED**—Newton Rifle, .35 caliber. Morgan Van Matre, Union Trust Bldg., Cincinnati, Ohio. 5-27

**SELL**—Sharps .44-77-470, 11 pounds, side hammer, double-set, good condition, \$20; Stevens No. 45, .32 "Ideal" double-set, Swiss butt, target sights, 5½ pounds, reloading outfit, cartridges, perfect, \$22.50; Winchester single, .50-100-450 or .50-110-300, perfect barrel, 7½ pounds, reloading outfit and shells, \$15. Pacific Ballard double-set action, \$8.50. Will consider Winchester 5-A with mounts or spotting scope in trade. **WANT**—Ballard and Sharps catalogs. C. L. Curtis, 585 E. Taylor St., Portland, Ore. 5-27

**FOR SALE**—7-mm. Hoffman 22-inch barrel, absolutely new. Cost over \$200, will sell complete for \$150. .30-06 Springfield Sporter, perfect. Beautiful Iowan Stock, Lyman 4x restocked by Hoffman, \$85. Howe-Whelen bolt-sleeve sight, new, \$11.50. 22-cal. Springfield, same as new, \$34. **WANT**—High-grade 20-ga. double shotgun—14½ x 2½ stock. A. R. Pryor, 500 S. 21st St., Birmingham, Ala. 5-27

**NEW BARRELS** put on Rifles. **RELINING** Barrels our specialty. Washington Gun Shop, Medical Lake, Wash. 5-27

**SELL**—.38 S. & W. Safety Hammerless, good, \$10. 380 Ortgies, holster, fine, \$12. Spence Carbine, 1850 Whitney, old muzzle-loading double. Max Wagner, Alexandria, Minn. 5-27

**FOR SALE**—Fine Hoffman-Springfield Sporter, A inside and out. Ivory bead front, Lyman 48 rear. Jostam pad, sling, solid leather case. A real bargain for \$75. Ideal No. 1 Lubricator, \$6. Dies, complete with punches to size .257, .311, .258, .429, \$1.25 each. Ideal full-length shell resizing dies for .25-35 and .250 Savage, \$1.25 each. 340 S. P. .25-35 bullets, \$2. 167 H. V. .30-30 cartridges, Lubaloy, for \$6.50. H. J. Manchester, Box 147, St. Petersburg, Fla. 5-27

**WANTED**—Springfield Sporter—Colt's Revolver using .38 Automatic cartridges, muzzle-loading rifles, antique pistols, set shotguns, rifles, revolvers. Dougherty, 651 West Prairie St., Decatur, Ill. 5-27

**WANTED**—.45 Colt S. A. Frontier, 5½-in. barrel, blued—inside condition must be good—must be cheap. J. W. Hession, 1881 Broadway, New York City. 5-27

**TWO POPE MUZZLE-LOADERS**—.33-40 spotless bores. One on No. 6 Schuetzen engraved Ballard; one on Winchester single-shot, heavy Schuetzen, fancy stock, peep sights, \$65 each, mould and pump, \$10. Genuine Swiss Martini, hair-triggers, Peterson No. 5, 30-inch octagon, 28.30 barrel lot shells, \$50. H. Lovell, 2809 Bellefontaine St., Indianapolis, Ind. 5-27

**FOR SALE OR TRADE**—12-gauge Remington Double Ejector, "F" grade, 30-inch barrels, Jostam pad and double Lyman Sights, fine condition, \$65. Goers Helinox Triad 6 x 30-inch focus, new condition, \$35. Krag Carbine, new N. R. A. Sporter Springfield barrel, rechambered by Niedner, Lyman on Cocking Piece \$25. Winchester Auto. 12-gauge, 28-inch modified, fine condition, \$35. **WANTED**—Springfield N. R. A. Sporting Model, new or in new condition. Dunlap Roddy, Rock Hill, S. C. 5-27

**FOR SALE**—Colt Bisley, .32-20, 5½-inch. Practically new, \$25 C. O. D. V. F. Shafer, Needles, Calif. 5-27

**WANTED**—Reloading tools for .45-90-500 26/10 Sharps Straight Rifle. Donald E. Martin, Hyder, Alaska. 5-27

**KRAG-SPRINGFIELDS**. Remodeled. Pistol Grip, Fore-end and Butt to your order. Photos on request. M. McDougall, Burlington, Iowa. 5-27

**WILL GIVE** \$8 for perfect No. 10 Stevens Pistol. George Courtney, 2312 John St., Fort Wayne, Ind. 5-27

**ACCURATELY WEIGHED** short-range small-game loads, .30-06, 18 grains, No. 80; 150 M. C., \$10.45 per 100. .250-3000, 12½, No. 80, 86, \$8. Other loads, latest powders, mid-range, 300-meter, big-game loads, extreme accuracy in 25 Niedner special, any velocity, best tools, proper bullets. We will reload your cases, fit Marine wide sights or check stocks. Lovell & Evans, 2809 Bellefontaine St., Indianapolis, Ind. 5-27

**FOR SALE**—.410 Lefever hammerless gun, in new condition, with canvas case and rod, \$19 delivered—a saving of \$8. H. N. Spencer, 1601 Railway Exchange Bldg., St. Louis, Mo. 5-27

**COLT DRAGOON REVOLVER**. Good working order, all marks visible, weight 4½ pounds. H. Hansen, 1641 N. Rockwell St., Chicago, Ill. 5-27

**BARGAINS** in Guns, Loading Tools, Ammunition components. Try my Clark's Special Hollow-Base Bullets for revolvers and rifles. Send stamps for samples and lists. W. A. Clark, Colton, N. Y. 5-27

**SELL OR TRADE**—Registered female police dog, year old, black and tan, blue ribbon blood. Write for particulars. **WANT**—\$50 or new and perfect Remington Portable or Corona Typewriter. Clarence E. Baldwin, Akron, Iowa. 5-27

**SALE**—.45 New Service; .45 Auto.; 380 Auto. Graflex Camera; 3-A Kodak. Frank Wilkinson, 82 Monticello St., Buffalo, N. Y. 5-27

**FOR SALE**—Springfield Sporter; Model 20 Savage; 39 Marlin; 16-gauge Smith; Remington Model 11 barrel. Cheap. **WANT**—.25 Remington Express; .54 Winchester. E. B. Huffman, P. O. Box 2471, Miami, Fla. 5-27

**WANTED**—No. 6 Ballard Rifle, .32 or .38, double trigger. H. Sweet, 810 Madison St., Syracuse, N. Y. 5-27

**FOR SALE**—Rem. bolt .30-caliber, Lyman 48 gold bead front. Factory condition. Shot about 100 times. Sling, \$50. Enfield as issued, .303-caliber, good, \$25. J. M. Batchelder, Plymouth, N. H. 5-27

NEW BARRELS put on .22-caliber rifles. Meiners & Richardson, Medical Lake, Wash. 5-27

SALE ONLY—Model 99-G .250 Savage. Special finish, Lyman sights, telescope sight and mounts, cowhide case, cartridges, rust rope. Excellent condition. Cost \$95, take \$60. George H. Taylor, 28 Adams Ave., Endicott, N. Y. 5-27

FOR SALE—25-21 No. 3 octagon 30-inch barrel, with 90 shells, re- and decapper. \$15. Also extra heavy .28-30 Stevens Pope, 28-inch, with Pope mould and false muzzle and 25 shells, \$25. Both barrels perfect inside and good outside. A. H. 744 Wiloughby Ave., Brooklyn, N. Y. 5-27

WANTED—Some good specimen of the "Kentucky" Rifle. W. F. Saybolt, 35 Greenway Terraces, Forest Hills, L. I., N. Y. 5-27

FOR SALE—1906 Springfield barrels, in gun-crank condition, \$2 each. F. R. Fawcett, 3915 California St., San Francisco, Calif. 5-27

MOR SALE—Krag Service Cartridges. Glenn Grimshaw, Boonville, N. Y. 5-27

SELL—Win. Model 54, .30-06, perfect, shot 20 times, \$35. O. F. Hitchcock, 2613 Rawson St., Oakland, Calif. 5-27

FOR SALE—.32 Marlin Repeater, Model 1892. Excellent condition, \$10. Thos. W. McKinley, McCall, Idaho. 5-27

JUST OUT—"Playing Card Targets." Keeps you in practice. Samples two cents. Art Westbrook, 02501 Morton St., Spokane, Wash. 5-27

TRADE—English Setter Bitch, 2 years, \$50 violin, FOR Remington 30-06 Express or .45 Colt Auto. Almer Langhus, Shelly, Minn. 5-27

WINCHESTER TELESCOPES mounted on any .22-caliber and Krag rifles for \$35 to \$40. Meiners & Richardson, Medical Lake, Wash. 5-27

WANT—B. & M. 3-X or Stevens 3½-X hunting scope and mounts, if perfect and cheap, for cash. W. L. Montgomery, Avinger, Tex. 5-27

FOR SALE—For best offer. Winchester .25-20 S. S., Winchester .22 long rifle 1890, Stevens 368 scope. All new condition. WANT—Stevens 044½ English Model rifle barrel, condition immaterial. Write for particulars. J. J. Donohue, Wakonda, S. D. 5-27

VICTOREEN Super Heterodyne Parts, complete, \$35, or trade for good firearms. Nelson Lucious, Box 999, Toledo, Ohio. 5-27

SELL, TRADE—New Hensoldt Dialyt 5-X, \$25; Winchester 52, oil-finished, fine, \$25; 40 golf clubs, new and slightly used, best makes, 2 bags. WANT—3-X scope, spotter, heavy Winchester S. S. rifle or action only, new condition, or improved Savage .250 bolt. W. Stump, Denison, Iowa. 5-27

STEVENS .22-caliber, Model 414, case, web sling, Lyman No. 17 aperture front sight, No. 103 rear, A-1 condition, \$14. H. E. Webb, 1630 Carmen Ave., Chicago, Ill. 5-27

SELL—Colt .22 Auto., crank condition with silencer, 2250 round long rifle, \$40. H. Friend, Calumet City, Ill. 5-27

RIFLEMEN, NOTICE—"Taylor Gain Twist" System of rifling in the .32-caliber makes the Springfield .32-06 the best gun for target or game, having the accuracy of the .22. This caliber for the man that wishes to have a .30-06 cut to a .32 for either lead or metal-jacket bullets. Can also furnish new barrels for Springfield in .30-caliber with factory ammunition. The first rifle received from this ad will be cut, tight chambered, tested, and returned free of charge. All letters answered. Dave R. Taylor, Athens, Ohio. 5-27

FOR SALE—Parker 12, double, 30-inch V. H. Lyman Sights, like new inside and out. \$50. M. H. Heim, 108 Plymouth Ave., Buffalo, N. Y. 5-27

WANTED—Good Krag Peep Sights. Leroy Schobel, 1092 Richards St., Milwaukee, Wis. 5-27

FOR SALE—.95 Winchester, .30-40 cartridges, belt, tools, sights, wonderful barrel. H. M. Stewart, Laurel Hill, La. 5-27

SALE—Improved Model Bolt Action .250-3000 Savage, fine condition, 100 reloaded cartridges, 400 non-fouling bullets. Belding & Mull Model 26 re-loading tool and bullet seater. Complete outfit, \$45. A bargain. Selmer J. Larson, Courtney, N. D. 5-27

SPORTSMEN TAKE NOTICE—Any one having had dealings with Charles D. Frost, hailing from Montana or anywhere in the West, please advise me. Last heard from in California. Dr. R. A. Brown, No. 7 South Howard St., Akron, Ohio. 5-27

FOR SALE—Case 1200, F. A. 18, .30-06 Ammunition, \$15. M. L. Rifle, .36-caliber. German silver decorations, mould and horn, \$12. WANT—Stevens 414 or S. & W. .22 S. S. R. L. Proffitt, Crawfordville, Ind. 5-27

SELL OR TRADE—Krag .30-40 and Springfield .45-70 Rifle. WANT—.22 or .45 Automatic. Henry Meisinger, Jr., 2308 S. Austin Blvd., Cicero, Ill. 5-27

FOR SALE—New Hepburn No. 3 double-set trigger, Swiss butt, checkered pistol grip, heavy Neidner nickel-steel barrel, .22-caliber, Lyman No. 103 rear sight. New L. C. Smith, 12-gauge hammer, 30-inch full choke. Chas. De Goller, Clayton, Wis. 5-27

WANTED—Smith & Wesson .32-caliber rim-fire, in good condition. Willis H. Brow, 95 Peace St., Providence, R. I. 5-27

FOR SALE—Two cases .30-06 Springfield cartridges, 1918 Winchester and U. S., \$18 per case. One case \$10. Krag cartridges, \$20. J. M. Simpson, 358 N. 9th St., Indiana, Pa. 5-27

WANTED—The Action only of .25-20 or .32-20 Winchester Repeating Take-Down, Marlin or Remington make. Will buy the whole rifle if barrel is in poor condition and price is reasonable. A. M. Branch, 204 Security Bldg., St. Louis, Mo. 5-27

FOR SALE—Purdey 12 ejector. WANT—.22 Springfield, 1926 output. George Schmeling, South Germantown, Wis. 5-27

.22 Colt Automatic, \$18. .25 Colt Automatic, \$10. Remington .41 Derringer, \$8. DeWitt Inglis, 5827 No. Kostner Ave., Chicago, Ill. 5-27

SELL—TRADE—Colt .45 Automatic, 200 shells, belt, holster, three clips, B. & M. Loading Outfit, \$35. Colt's .41 C. F., 5-shot, \$10. WANT—Ideal No. 3 Loader, bullet lubricator and sizer .45 Colt's Regular, W. W. McGowan, 1906 Hillside Ave., Springfield, Ohio. 5-27

WILL TRADE—2 cases .30-06 Service Ammunition for .30-caliber 1903 Springfield. J. S. Follett, 1213 S. Cheyenne St., Tulsa, Okla. 5-27

TRADE OR SELL CHEAP—Remodeled Russian Rifle. Muzzle-loading shotgun. R. McCaslin, Centralia, Kans. 5-27

CLOSING out entire stock of genuine Mauser and Mannlicher rifles, Sauer shotguns. Lowest price in U. S. Send stamp for list. Baker & Kimball, 38 M. South St., Boston, Mass. 5-27

FOR SALE—National Match Springfield Sporter. Barrel smoothed but not removed from receiver. No. 48 Lyman fitted and barrel blued by Neidner. Fine walnut stock by G. R. Owen. Stock 13½ x 2½. Rifle fired less than 200 rounds, with Lubaooy ammunition. Cost \$65. Neidner Heavy Barrel Springfield, National Match action, Neidner close chamber. 1922 pistol-grip stock. Neidner bullet-seating die, both, \$40. Fairbanks Miners' Scale No. 354, perfect condition, \$8. Modern Bond Tool for .30-06 cartridge, \$3. First certified check or money order takes these articles. All guaranteed perfect. J. J. Wylie, 411 Pine St., Emporia, Pa. 5-27

WANTED—Tripod for Colt Machine Gun. R. G. Rodman, Cherokee, Iowa. 5-27

COLT .45 AUTOMATIC, new model, holster, extra magazine, new, \$30; prewar Luger, grip safety, 9 mm., 6-inch, \$25; Colt .32 P. P. Target, holster, \$21; Colt .32 P. P. Nickel, \$15; Remington .38 Spl. Barnes 10-inch match barrel, perfect, \$35; Savage .22 H. P., new, 200 cartridges, case, \$30. Springfield .30-06, Lyman 48, fine, \$30. Savage .250-3000 bolt, Lyman 54, fine, \$25. Winchester 52, fair, \$15. Many others. Will take other guns in trade. Eric Tinsley, 423 S. 4th St., Louisville, Ky. 5-27

FOR SALE—Good 40-82 Win. Repeater, \$8. Mauser Sporter .30-06, with Lyman, No. 35 peep sight, perfect condition, \$20. Reloading tools, telescope sights, etc. Bud Dalrymple, Nowlin, S. D. 5-27

FOR SALE—New Smith & Wesson straight-line pistol, .22-caliber, \$27.50. Also heavy-barrel Springfield, new condition, \$60. A. C. Wise, c/o Pa. R. R. Y. M. C. A., Washington, D. C. 5-27

SALE—TRADE—Remington 12, full, autoloading shotgun. Factory condition, \$40. WANT—.30 Remington autoloading, new. H. Hudson, 1757 Superior Ave., Toledo, Ohio. 5-27

TRADE—One .38-caliber S. & W. special, new condition, with 750 .38 long cartridges. WANT—Springfield .22-caliber rifle, good condition. F. D. Hickok, 152 Summer St., Bradford, Pa. 5-27

Beautiful .450-400 double-barrel English Rifle, hammerless, triple-lock, top-lever action, safety lettered in gold, extremely engraved, fine Italian walnut stock, full pistol-grip, perfect condition, extremely accurate, good for deer, elk, etc., only \$150. Also, 100 Cordite cartridges, \$15. Also, fine English double-barrel .577 Hammer gun, old model, can not be told from new, condition perfect, highly engraved, very accurate, beautiful walnut stock, only \$75. One 3-barrel De Lux 16-gauge .25-35 highly engraved, brand new. Worth \$275. Will sell for \$125. No trade. T. C. Brown, Box 1668, Dallas, Tex. 5-27

WANTED—.50- and .22-caliber Remington Pistol and Krag Ammunition. L. W. Siegel, 484 Hendes St., Elgin, Ill. 5-27

SELL OR TRADE—Several loading tools. Box 393, Alameda, Calif. 5-27

THE OVR UNDA GUN for trap or field—the greatest improvement in a sporting gun in a generation. Circular on request. Baker & Kimball, 38 M. South St., Boston, Mass. 7-27

FOR SALE—Officers' Model Target, \$33. Winchester 1903, \$22. Both new condition. Charles E. Taylor, 42 Savannah St., Rochester, N. Y. 5-27

SPORTING STOCKS FOR SPRINGFIELD, Krag, and all sporting and military rifles. Finished and unfinished, in select black walnut, Italian, and Cimarron, from \$20 up according to grade and finish. All accessories in stock. Stamps for photos. R. D. Tait, Dunsman, Calif. 5-27

FOR SALE—Krag .30 rifle, good as new, with 1,200 cartridges, \$30. L. C. Davis, Maquon, Ill. 5-27

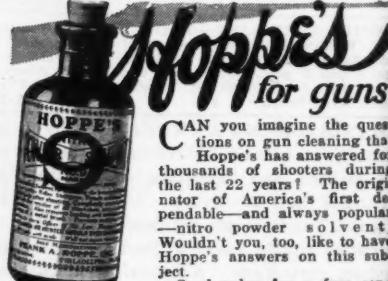
SELL—.12-C Remington .22, new condition, \$17. 8-2 Dumarier Binoculars, cost \$50, sell \$24. U. S. 17 Sporter, .30-caliber, \$30. Lyman No. 1 rear and No. 5 front sights, \$4.60. 1,000 Kleanbore .22 shorts, \$4.60. 1,000 long rifle, \$6. U. S. 17, .30-caliber, like new, \$19. New Stevens .22, Model 414, \$14. Russell Cashdollar, 138 Natl. Road, Elm Grove, W. Va. 5-27

FOR SALE—Hensoldt 12 x 30 Binocular, new condition, \$65. Robert D. Campbell, 7 Orchard St., Easthampton, Mass. 5-27

WANT—16-mm. Camera and Projector. Springfield .30-06. Ben Herr, Lebanon, Ind. 5-27

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